Stories in Pictures

During the 1968 South Dakota Vocational Agriculture Instructors' Conference, Mr. H. E. Irwin was honored for his service as State Supervisor of Vocational Agriculture. Mr. Irwin retired October 31, 1968. Pictured are (left to right) Leonard Johnson, President of the South Dakota Vocational Agriculture Teacher Association, Mr. Irwin, Dr. E. E. Schwartz, South Dakota State University, Dr. L. J. Agan, South Dakota State University, and W. R. Bryant who was honored for 35 years of service as a vocational agriculture teacher.

Mrs. Charlotte Olsen, the first woman teacher of agriculture in California,inspect the poultry project of Chris Bowers, a vocational agriculture student at Yuba City, California. (Photo by E. M. Juergensen, University of California)

Darrell Cornwall (left), a senior high school student in vocational agriculture from Gartell, Kansas, receives a $500 Harry Darby Scholarship Award in prospectives of agriculture from Dr. E. J. Agan, Kansas State University. (Photo by E. J. Agan)

Workshops conducted by the Agricultural Education Division, University of Illinois, prepare agricultural occupations teachers to work with disadvantaged youth. Pictured are (left to right) Yocenta Quiles, Jack Sturffer, Sam Jones, and Robert Wayman.

Boys studying vocational agriculture at Cal Starkey's Boys Ranch, Texas, do all the maintenance and repair on farm machinery. (Photo by Guy W. Flinn)

Featuring —
AGRICULTURAL EDUCATION IN AREA SCHOOLS
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Guest Editorial...

State and National Planning for Area Schools

The importance of the area school movement is emphasized by the two observations which I would like to make. First, we are in the early stages of a "vocational education revolution" which will have farreaching implications in every community in every state. Second, the revolution appears to have initiated a trend in the thinking of persons who plan and administer public schools. The trend has been from what might be called "intellectualism" to something more like "functionalism." These developments have created a favorable environment for change in vocational programs in the public schools. Vocational educators who have helped initiate and who want to continue this revolution and trend in educational thought should be quick to recognize their potential responsibility for defining their future roles in the area school movement.

Gene M. Love is Associate Professor and Coordinator of Agricultural Education, College of Education, University of Missouri, Columbia.

(Continued on next page)

Subscription price, $2 per year. For subscription orders $2.25. Student subscriptions are free. For address changes, $1 for October-May, Single copy $2.00. In Canada add 25¢ per copy. Publish in November, December, January, February, March, April. Send all subscriptions to Dick newell and associated in April. Subscriptions are free. The agricultural EDUCATION MAGAZINE, Box 5118, Madison, Wisconsin 53705.

Articles and pictures should be sent to the Editor at the appropriate address. Second-class postage paid at Athens, Ohio.
Exclusive or principally for vocational education poses some interesting issues. For example, vocational educators and general educators agree, publicly at least, that general and vocational education should be more closely related, each contributing to the other. It is difficult to see how separate vocational schools can enhance complementary relationships between vocational and general education. Vocational education as a part of a comprehensive high school does not insure coordination between general and vocational education. The task seems difficult, if not impossible, when general education courses and vocational education courses are provided in different schools.

It is conceivable that both the regular high school with its primary interest in the so-called general subjects and the vocational school will go their separate ways, each paying little attention to the other. All the two schools may share are those students who elect or are counselled to commute to the area high school for specialized courses. Hopefully, an unavoidable schism between vocational and general education is not inherent with separate area schools. Regardless of how many additional problems are served, the further separation of general and vocational education will do little to improve the image of vocational education or the students served by it.

Separate area vocational schools may succeed admirably in making available high quality and up-to-date programs to more students. But in so doing the establishment of area vocational schools alone does not, or at least, not yet, create a track system whereby students lack the ability, means, or motivation to succeed in the regular secondary school are characterized. This is another program which will not be unfortunately be considered, by many, some of those, enrolled, as second-best. Such a system is inimical both to our system of public education and to the view currently espoused in vocational education that appropriate occupational education is to be available to all students.

I have always contended that programs in area schools, we should keep in mind the potential danger as well as the advantages of a system of area vocational high schools.

Thomas for Future Issues

- March: Student Organizations
- April: Teaching - Instructional Materials
- May: Program Planning and Curriculum Development
- June: Public Information Programs
- July: Policy and Policy-Development in Agricultural Education

The image of educational institutions at the local level Many school administrators and most teachers do not view their roles to include the responsibility for assessing the interests of students and their needs. In their communities of few inventing the employment and training needs of local industry. In addition to a lack of interest, there are few people at all levels who are prepared to cope with these problems. Consequently, the establishment of area school programs has been more by chance than by plan.

The cover picture: Students studying ornamental horticulture at the recently completed Cherokee County (South Carolina) Area Vocational Center are using greenhouse plants to color-ize the campus. The United County horticulture is an experimental garden serves as a laboratory for the class. Agricultural programs are offered in several of the fourteen area vocational centers operating in South Carolina in 1967. The Cherokee County program is one of the eight area centers that includes, in addition to agriculture, horticulture, ornamental horticulture, floristry, and pulpwood forestry. (Photograph by Wilber H. H. McCauley, South Carolina Department of Education)

RATIONAL FOR AREA VOCATIONAL EDUCATION CENTERS

R. D. ANDERSON

This article is from Mr. Anderson's presentation during a National Seminar on Agricultural Education Programs Development in Area Vocational Schools held at Bowling Green, Ohio, September 1968. Mr. Anderson is a former teacher and state supervisor of vocational agriculture. On August 15, 1958, Mr. Anderson retired after serving fourteen years as State Director of Vocational Education in South Carolina.

I find it best not to spend much time looking to the past. However, we must occasionally glance backwards to see how far we have come and to determine how far we must go. We have taken great strides and made much progress since the passage of the first National Vocational Education Act in 1917. Yet the problem of how to travel if we are to reach the goals we have set and if we are to make adjustments to continuing change. If we are to keep abreast of the times and serve the people to whom we have dedicated our efforts, we must remove any resistance to change that we may have and be prepared to make many adjustments in the days and years ahead.

Responsibility and Challenge

It is my belief that every man, woman, and child has the right to obtain all the education he or she desires and is capable of acquiring. I believe that vocational educators should provide programs that provide benefit to the individual, the community, and the nation. I believe that vocational education educators should prepare the individuals who have the potential to succeed in high school have made a significant contribution to the education of the nation.

I am most concerned about the waste of human resources indicated by the number of students who drop out of school before high school graduation. We should also be concerned with the situation of those who drop out of school. Vocational education should not solve the dropout problem, but research has shown that sound and attractive educational programs can motivate students to stay in school and earn diplomas.

The Area Center Concept

The vast majority of schools in our nation offering vocational education have limited financial, space, equipment, and trained personnel. So, expand and offer the courses demanded by current times. These limitations have made it very difficult for most high schools to provide in a single school system a wide variety of courses to qualify students for jobs in agricultural, business, industry, and other occupations. It is not a solution to these limitations led to the development of the area center concept. The Vocational Education Act of 1963, which provided matching funds for construction gave impetus to the development of area centers.

When I speak of area centers, I think of two kinds or types of schools. The first is the area school which offers both vocational courses and the basic or academic courses that qualify students for a high school diploma. The other type is the center where students take their academic subjects in their home schools, but who come to the area center for vocational instruction or related work experience in the shop and laboratories. Which type of center better serves the people varies with conditions within the states. The density of population and the distance between schools are perhaps the most important factors in making a decision. In some Carolina students take progressively their training in their high schools and are transported to the centrally located area center for training.
Should vocational agriculture be offered in area vocational schools? This question has concerned teachers of vocational agriculture, teacher educators, supervisors, and others especially during the past five years. For fifty years vocational agriculture has been most often offered in rural high schools. Vocational agriculture was often the only vocational program offered in those schools.

Many questions arise in considering a move to a new and different house such as the area vocational school. Some questions relate to whether the area school is a new construction or substitute for existing programs in nearby schools. There are questions about what clientele will be served by the area school and by the member schools. There are questions as to what curricula should be offered and what facilities will be needed.

Importance of Area Schools

The importance of area vocational schools was recognized by Congress in the Vocational Education Act of 1963. This Act, for the first time, placed emphasis on providing funds for the construction of facilities for vocational education and specifically required one-third of the allotment of funds to each state to be used for area vocational school facilities or for programs for persons who had left high school and were available for full-time study.

The recently enacted Vocational Education Amendments of 1968 continue to authorize funds for the construction of area vocational education facilities. In addition, provision is made for funding residential vocational schools and demonstration schools, both of which can also include programs of agricultural education. These developments suggest that interest in area vocational schools on the part of agricultural education will continue for the next several years.

An Example of an Area School

An example of vocational agriculture in an area school is provided by the Penta County Vocational School at Perrysburg, Ohio. In 1964, nineteen local school districts formed this area vocational center. A 1,800 square mile area and a population of one and one-half million people are involved in this school district which has organized on a single site an area vocational school, a technical college, and an adult education division.

The high school division enrols students in grades eleven and twelve. High school students spend three-fourths of the school day on vocational subjects and the remaining one-fourth day on academic subjects. Students are enrolled in their home high schools but spend the entire day at the area center. One-fourth of their time in vocational education is devoted to class work and the remaining half-day is spent in laboratory or occupational work experience.

The Penta County Vocational School offers more than 60 vocational units in its high school program with 29 course offerings leading to more than 300 occupations. A total of 1,117 students are enrolled including 69 in vocational agriculture, 95 in vocational home economics, 239 in business and office education, 35 in distributive education, 510 in trades and industrial education, and 157 in an occupational work experience program designed primarily for disadvantaged students whose needs can be better met at the area school than in their local schools. Buses furnished by their home schools transport 60 per cent of the students. The remaining students provide their own transportation.

An example of an area vocational program is the Penta County area program in which students are enrolled in cooperative education programs and need private cars for transportation to their work stations.

Agricultural Education in the Area Center

Vocational agriculture was considered as an offering of the Penta County Vocational School from the beginning. The need for coordinating the area center program with that of the eight local programs in vocational agriculture necessitated some organizational changes. This organization began with the involvement of local teachers in a training program since many new teachers had been placed in the area school.

The Penta County Joint Vocational School offers more than 60 vocational units in its high school program. 29 course offerings leading to more than 300 occupations. A total of 1,117 students are enrolled including 69 in vocational agriculture, 95 in vocational home economics, 239 in business and office education, 35 in distributive education, 510 in trades and industrial education, and 157 in an occupational work experience program designed primarily for disadvantaged students whose needs can be better met at the area school than in their local schools. Buses furnished by their home schools transport 60 per cent of the students. The remaining students provide their own transportation.

An example of an area vocational program is the Penta County area program in which students are enrolled in cooperative education programs and need private cars for transportation to their work stations.

When considering area schools it seems desirable to consider their advantages in terms of students and the kind of education they receive. Some have appreciated area schools on an "either-or" basis assuming that vocational education must be offered either in the regular high school or in the area school. Conant had many supporters when he recommended that comprehensive high school which included offerings in vocational education. Unfortunately, in the past a decade or so, a movement has gained momentum in the area schools which require that the school be comprehensive high school which includes offerings in vocational education. Some people believe that this new movement is a good trend for better results in vocational education. However, it is possible that some students in the area schools may have been disadvantaged by the movement which makes the school appear to be more attractive without considering the needs of students in the area schools.
Vocational Agriculture in Area Schools
(Continued from page 182)
in the area school; and teaching and learning can take place with appropriate equipment and modern buildings and equipment.

Advantages of Area Schools

What are the advantages of vocational agriculture in area schools? In addition to the general advantages of area schools, there are some more specific advantages to agricultural education in area schools.

- More students can be prepared for specialized jobs in agriculture.

- Students are offered a wider choice of careers within the field of agriculture through the specialized programs which can be offered in area schools.

- Students see a brighter future in vocational agriculture because the area school provides opportunity for further education in a specialized career or in post-high school and technical training opportunities.

Area schools offer a mechanism for offering the more specialized programs of agricultural education which are difficult to offer in local schools because of the small number of students, expensive equipment, and lack of need for specialized teachers.

- Planning of agricultural education programs on an area basis is facilitated. The area school concept aids to the former approach of each community planning its own program without regard to the fact that coordination offers many advantages.

Coordination Essential

The decision has been made to include agriculture in the area school. While there will be a number of problems which must be answered, perhaps the most important is that of coordinating the area community program with programs in local schools. This coordination need to begin with the involvement of local teachers planning and surveying the need for vocational agriculture in the area school and in the schools in the area. They can also help decide what clientele are to be served.

- Finally, if we look at vocational agricultural education in area schools in terms of its possibilities as a means of supplementing good local programs, it would appear that area schools have much to offer. Area schools are not the only means of reaching all the problems of expansion and improvement in agricultural education. But area schools may be the best possible means of providing agricultural education to meet the needs of the greatest number of students.

A Rationale For Area Vocational Education Centers
(Continued from page 181)

vocational education and work experience.

- The area center does not eliminate previously established courses at the local high school but serves to expand present offerings by adding new courses and special courses that cannot be economically provided in the separate high schools. Area centers are not a device to consolidate all vocational training under one roof or at one location.

Advantages

The area center offers many advantages over single school programs. The central location of the area center offers:

- More economical operation of a larger facility.
- More economical operation of a larger facility.

- Makes vocational education available to more students.

- More economical in that only one facility and one instructional staff is needed; one set of equipment serves several high schools.

- Provides a broader curriculum and gives students a wider choice of courses.

- Provides for more and better vocational and technical education.

- Provides for the development of a more flexible vocational curriculum for students to receive instruction in other vocational areas which are related to their major fields of interest.

- Improves, with its new and modern facilities, the image and status of vocational educational programs and lends pride and prestige to the community and the students by dignifying preparation for occupations.

- Since the passage of the Vocational Education Act of 1963, much has been done and is being accomplished in the establishment of area centers throughout the nation. The 1967 Annual Report of the Department of Education, Welfare and Education states that "Approximately 300 area vocational educational centers have been approved for construction or expansion since 1963. Act funds became available in fiscal year 1964. In fiscal year 1966 there were 350 projects funded for construction, expansion, or remodeling of 237 separate school plants. Combined local, state and federal spending for construction during fiscal year 1966 was $160,615,345."

- Federal reports on fiscal year 1967 indicate funding for 373 projects for construction, addition, or remodeling at a cost of $139,375,778 in local, state and federal funds.

Area Centers in South Carolina

South Carolina has fourteen area centers constructed and in operation with a total education cost of $430,000, or $1,000,000 each. Projected plans call for fifty-two schools within the next five years. At a total cost of $13,701,866 has been spent or earmarked for construction of area centers since the passage of the 1963 Act.

As a state director of vocational education, I believe that an area vocational center should be given consideration at the community level. Ten years after the 1963 Act was passed, work on this concept has proven to be an excellent program of education and operation. The center is ideal for providing vocational educational opportunities to all youth and adults in the area.

Charles E. Miller

Department of Education, Welfare and Education

In conclusion, I would stress the importance of the area center and the need for its development in order to provide a better education for all youth and adults in the state.

The Beginning

Twenty-four farmers enrolled in my first adult class in 1947. This was in a community where one leader of the community advised that farmers would not attend agricultural meetings, especially if held at night. I found the opposite to be true. Farmers will attend if they believe they can benefit. I believe this to be true in most communities.

Study and preparation on the part of the teacher are the keys to good instruction which in turn is the key to good attendance. In teaching over 800 young farmer and adult farmer classes, there has not been a single session when I did not spend more than four times the hours spent in classroom teaching in preparing for the real classroom session. There has been no time spent on the unit that was not enough time was spent in preparation, and it was usually reflected in reduced attendance at the following class meeting.

The County Program

In 1958 I began work with a full-time teacher of adults for the entire county. I accepted the task apprehensively not knowing whether successful classes could be organized in three additional communities in the county where adult classes had not been attempted before.

The county superintendent called a meeting of leading farmers in the various communities, agricultural businessmen, and educators to set up objectives for the expanded program. The group agreed that an expanded vocational agricultural program for adult farmers would encourage more efficient farming operations and improve the economy of the county's agricultural industry.

Advisory Committee

The planning group decided that each of the four classes organized in the four communities should select a chairman, a secretary, and a membership of six members to serve as an advisory committee for the class. The chairman and secretary were chosen from each of the four classes plus two farmers selected from the county at large by the school superintendent as county agricultural advisory committee. The duties of the county advisory committee were to serve as an advisory capacity to the Union County Board of Education relative to the operation of the program and to help the teacher in conducting the program.

With guidance the new classes were organized by the farmers. There have been many questions among teachers relative to the role of advisory committees in vocational agriculture. The county advisory committee, which meets semiannually, has been the core of the adult farmer program in our county. I would not think of continuing the program without the guidance and help of the county advisory committee.

Enrollment and Attendance

I find that adequate enrollment and regular attendance are not problems. The problem is holding enrollment to a point where one teacher can work effectively with the farmers. Farmers are just as busy with church, civic, and other affairs as people who live in town.

Three of the busiest farmers in the community have been continuously enrolled in any adult classes for twenty-five years. Following is a summary of enrollment and attendance in the four classes since 1958.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number Enrolled</th>
<th>Per Cent Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>110</td>
<td>99</td>
</tr>
<tr>
<td>1959</td>
<td>115</td>
<td>99</td>
</tr>
<tr>
<td>1960</td>
<td>105</td>
<td>99</td>
</tr>
<tr>
<td>1961</td>
<td>115</td>
<td>99</td>
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<tr>
<td>1962</td>
<td>115</td>
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<td>1963</td>
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<td>99</td>
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<tr>
<td>1965</td>
<td>115</td>
<td>99</td>
</tr>
<tr>
<td>1966</td>
<td>115</td>
<td>99</td>
</tr>
<tr>
<td>1967</td>
<td>115</td>
<td>99</td>
</tr>
</tbody>
</table>

Until 1962 a farmer was required to

(Continued on page 187)

A County-Wide Vocational Agriculture
Program for Adults

Charles E. Miller, Teacher
Adult Vocational Agriculture Program
Morgantown, Kentucky

Farmers enrolled in the vocational agriculture programs in 1948 conducted test planting of conventional villages with a soil strip.
Extending Local Vocational Agriculture Programs Through Schools

Robert W. Harrison
Area Advisor of Agricultural Education
Delaware, Pennsylvania

Before discussing secondary and postsecondary programs of agriculture, it is necessary to have a purpose or goal to guide us. Perhaps the best place to look for this purpose is the Act of 1964 which states the purpose of 1964 state three purposes: "To maintain, extend and improve existing programs, and create new programs." Neither act mentions "duplicating the same program" as a purpose.

FEATURES OF AREA PROGRAMS

To me, maintain means to keep our present, good agriculture programs in competitive local high schools. We should use funds to make local programs stronger and to train students in a more efficient manner. These vocational agriculture programs are excellent and are serving well the needs of students. However, we can extend comprehensive high school vocational agriculture programs by offering different and more specialized programs of agriculture in our local schools. The area school program should also extend agricultural education to those students not served by the local comprehensive high schools. This can be accomplished by offering special courses in areas where agricultural education is not offered in the local schools.

Area school programs in agricultural education should serve certain students better than local high school programs. It is not to say that area programs can serve all students better than local high school programs. It is important to understand that each program should be developed to serve a different purpose.

Our philosophy is that the regular program of agriculture should be taught in the local comprehensive high school and that specialized programs of assistance to agriculture should be taught in the area school. Thus, the distinguishing feature of area school programs is specialization.

SOME EXAMPLES

Turf Technology

An example of a specialized program is the turf technology program in Pennsylvania. The program is a two-year program which has the objective of training a high school student in the knowledge and skill of turf production and maintenance. In less technical language, the objective is to train a turf technician. On the other hand, local comprehensive high school programs have as their objective the training of an agriculturist.

Note that the objective is limited in nature and is not to anger the turf program which is to be accomplished. This is the type of program that the agriculture industry has indicated they desire. The turf technology program certainly meets the needs and interests of students who enroll. I feel that students who schedule the course can very quickly determine whether or not they are going to find the course rewarding, challenging, and interesting. We have a number of students who drop the course while others stay and do very well. The placement of graduates is no problem. We have placed a very high percentage of those desiring a placement in the turf industry.

Other Programs

Turf technology is not the only specialized course offered in Pennsylvania’s area schools. We have or will have programs in small animal care technology, landscape design technology, floral design technology, nursery production and management, greenhouse production and management, and agriculture equipment sales and service.

Animal Care Technology

The Walter Biddle Sage High School in Philadelphia, Pennsylvania, based this course on Philadelphia, offers a small animal care technician program. This is a two-year program for eleventh- and twelfth-grade students. The objective of the program is to educate students who are interested in working with laboratory animals. The program is not designed to train veterinarians but to prepare assistants. We have had outstanding success placing graduates of the program in hospital laboratories, pharmaceutical laboratories, and laboratory animal farms.

SOME QUESTIONS

I feel that all areas of vocational agriculture education should evaluate the time it takes to train a student. Certainly no program should waste the time of a student. We must include the most up-to-date material, but it is apparent that some programs can and should be cut in length. What is accredited about forty-five minutes per week or thirty-six weeks a year for four years. We must develop programs that benefit students. If a one-year program provides an occupationally trained graduate, let us have a one-year program. This is the philosophy we use both in our secondary and adult programs.

CONCLUSION

There are some who believe that it is a waste of funds to duplicate good programs. This is not the case. Small area school programs in area schools. It would appear that the interest of students and the industry could be served better by a different type of agriculture program in area schools. One type of high school course might be a specialized program that would meet the interests of too few students to make the offering possible. However, an area school program need not be longer than is necessary to train a student. The agriculture industry needs trained specialists as well as generally trained agriculturalists. Since the area school serves a larger student population, it is important to offer programs that meet the interests of a smaller percentage of all students enrolled.

A Student Enrollment in Turf Technology at Franklin Institute of Technology Technical School shows a golf course greens

(Below)

A laboratory technician and the teacher in the area school show a student enrolled in the small animal care technology program the proper way to hold a laboratory animal.

A County-Wide Vocational Agriculture Program for Adults

(Continued from page 185)

attends five class sessions to be enrolled. The advisory committee recommended that the required number of meetings for enrollment be increased from five to six thinking that such a move might stabilize enrollment and eliminate some farmers who were not attending regularly. However, enrollment increased more rapidly. The number of co-op form supervisory visits increased from 469 in 1958 to 709 in 1967.

Farmers attribute the increasing enrollment to the following factors:

—A challenging course of study based on the farmers’ suggestions and requests.
— Adequate preparation and resource materials for each class session.
— Follow-up instruction on the farm.
— Practical all-day sessions and end promptly at the time designated.

What is Taught

A major factor contributing to the farmer interest in the program is that practically all farmers have corn, wheat, beef cattle, and hogs as their primary farm enterprises. Since corn accounts for either directly or indirectly approximately 70 percent of the agricultural income of the county, we spend a great deal of time studying and working toward the improvement of this enterprise. In 1958 the average yield of corn for the farmers enrolled in the three new classes was about 54 bushels per acre. In 1967 the average yield of corn for farmers in all four classes was 103 bushels per acre on a total of 41,000 acres.

In 1958, a relatively poor crop year, we made a study to determine the relationship between the number of years a farmer had participated in the adult program and the average yield of corn per acre. With all farmers enrolled in the program including in one of the following groups, the results were as follows:

<table>
<thead>
<tr>
<th>Number years enrolled</th>
<th>Bushels per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>1 to 3</td>
<td>55</td>
</tr>
<tr>
<td>4 to 6</td>
<td>70</td>
</tr>
<tr>
<td>7 or more</td>
<td>75</td>
</tr>
</tbody>
</table>

Farmers enrolled in the program grow an average of 248 acres of corn. From these data one can easily see how much the corn production portion of the course of study has meant to those who have taken part in the program.

Operation and Administration

There have been no rigid policies established for the conduct of the program. The farmers feel that the program in its form and that they have freedom to operate with the board framework of policies of the State Department of Agriculture local school board. They believe the program is being operated for their benefit and for the welfare of the county.

The program has grown in enrollment to such an extent that adequate individual on-farm supervision has become a major problem. Telephone calls and requests for supervisory visits grow numerous. I have partially worked out this problem by reducing the time spent with individuals.
The year 1956 marked the beginning of vocational agriculture in Connecticut when a private institution added agriculture to its curriculum. The first public school agricultural program was organized in 1912 and was supported entirely by local funds. A plan was then adopted for the State to pay the salary of the teacher of agriculture with the town providing facilities, equipment, and supplies. Public school agricultural programs in Connecticut followed this plan. These programs served well for a beginning, but they were not completely satisfactory since only a local area was served. Inadequate facilities with little or no equipment hindered the further development of programs with this policy.

**CONSULTING COMMITTEE**

In 1954, a state-wide Vocational Agriculture Consulting Committee was formed at the request of the State Board of Education to study the status of vocational agriculture. Based on their findings, the committee was asked to submit recommendations to the State Board of Education for the further development of vocational agriculture. The committee recommended the establishment of regional centers which would provide training in agriculture to anyone in the state who desired it.

**Findings**

The committee found that only one-third of the major farm towns in Connecticut had four or more students enrolled in vocational agriculture. Many youth interested in agriculture, especially college-oriented youth, were not enrolling in agriculture. There was a feeling in many communities that existing programs were not geared to agriculture’s needs. They found poor facilities and limited equipment. Even though the number of farms was decreasing, agricultural production was increasing. Connecticut’s agriculture was becoming highly specialized; there was a rapid increase in mechanization on farms. The committee found an acute shortage of professional and semi-professional personnel in agricultural service occupations.

**Agricultural Education**

- The agricultural curriculum was becoming highly specialized; there was a rapid increase in mechanization on farms. The committee found an acute shortage of professional and semi-professional personnel in agricultural service occupations.

**Needs**

- The committee's study revealed that diversified programs were needed which would provide agricultural education opportunities for all interested rural and urban youth.
- There was need for challenging programs which would encourage students to specialize in an area of major interest.
- Also educational programs needed for students interested in agricultural service occupations.

**Recommendations**

- The Consulting Committee recommended regional centers for vocational agriculture with each center having
-moderately modern facilities including shop, laboratory, library, classrooms, greenhouses, and land laboratory.
- They recommended that local advisory committees be established to develop plans, select equipment, and develop courses of study.

**Regional Centers**

As a result of these recommendations, the 1955 session of the Connecticut legislature authorized the establishment of regional centers for vocational agriculture in Connecticut. The legislation provided that any local board of education could assume the initiative in initiating its willingness and interest to operate a regional vocational agriculture center. This local board and boards of education in other towns cooperating in the establishment of a regional center were asked to appoint representatives to a committee for the Regional Center. The committee would be charged with the responsibility of determining the need for a regional center and its location. The committee reports its findings and recommendations to the educational board of education which, in turn, applies to the State Board of Education for approval to establish a regional center.

**Funding**

Upon approval, the State Board of Education provides a grant up to $200,000 for constructing and equipping the regional center. The authority and responsibility for operating the regional center rest with the local board of education governing the high school at which the center is located.

**The Picture Today**

Connecticut’s first regional agricultural center began operation at Woodrow Wilson High School, Middletown, with three teachers in September 1956. At that time, there were 11 other locally operated programs in the state with 22 teachers. These programs provided 528 high school students and 174 out-of-school youth and adults who came from 36 of the 169 towns in Connecticut. Now ten years later, there are fourteen regional centers plus three single-teacher, locally operated programs in this area. In 1966, vocational agriculture in all likelihood might have become nonexistent. There is still much to be done. The key to the success or failure of any of these programs lies largely with teachers who have been inspired to meet this responsibility for change.
PREPARING AGRICULTURAL RESEARCH TECHNICIANS

AVRON R. UCHURCH
Central Carolina Technical Institute
Seeded, North Carolina

Since World War II there has been a strong demand in agriculture and related industries for technically trained persons. This is the result of the technological changes which are taking place in agriculture. Until recently most of these jobs have been filled by graduates of the four-year agricultural colleges. However, the demand for professionally trained persons in agriculture has become so great that four-year college cannot meet the demand. The agricultural college graduate must be supported by technicians.

There is a great need for persons trained as agricultural research technicians and research assistants. For example, the Superintendent of the North Carolina State University Research Farms estimates that there are over 300 careers employed by the University and the State Department of Education as research technicians and assistants. In addition there are employment opportunities for research technicians in business firms that are involved in research such as agricultural chemical companies, fertilizers, seed, and feed companies, and cooperatives.

Agricultural Research Program

To help meet the need for agricultural research technicians, Central Carolina Technical Institute offers a unique two-year technical program in agricultural research. General education courses completed by students in the agricultural research program include English, mathematics, chemistry, and social science. Courses in the major field include animal science, plant and crop science, soil science, forestry, insects, agricultural chemicals, plant and animal diseases, and horticulture. Introduction to research, special research problems and agricultural statistics are also studied.

Specific objectives of the curriculum include teaching management procedures from seedbed preparation to harvest, experimental plots, interpreting research data, and preparing technical reports. Students are taught to diagnose and analyze problems of research and to perform laboratory techniques.

Supervised Experience

During the summer between a student's first and second year, each student participates in supervised work experience on an experimental farm with a commercial, private, or educational agency. Students are paid for this work. There are sixteen research stations in North Carolina from which students may choose to work during the summer.

Central Carolina Technical Institute has five acres of land which is used for field trials and crop testing. Tests on various crops and fertilizers are conducted annually on several varieties of soybeans, grain sorghum, corn, sudan grass, and strains of Bermuda grass. Management practices are tested on fruit crops such as peaches, apples, grapes, and strawberries. Each student in the agricultural research program is responsible for one field or forage crop and the data collection, analyzing and reporting the work.

Facilities

We have modern facilities and equipment for the agricultural research program. At the beginning of the 1965-66 school year, a new building was completed which includes laboratories for chemistry, biology, and physics plus facilities for the animal science and veterinary-medical departments. There is a modern life science laboratory for the agricultural science courses.

Equipment includes a large model tractor with all necessary equipment including trolley plots and research projects. We also have a crop sprayer and a airfog application and an environmental chamber for the production of insects and plants under controlled environmental conditions. A greenhouse is used to provide seedlings for the experimental plots and to grow laboratory specimens. Research projects are also conducted in the greenhouse.

Employment

At graduation from the agricultural research program students receive an Associate of Applied Science Degree. Graduates can expect a starting salary of approximately $5000. Employment opportunities for a graduate of the agricultural research program include research technicians with seed, feed, fertilizer, and chemical companies; pest and parasite control assistant, equipment operator, pest control worker, farm supply salesmen at servicemen, and technicanc in the Department of Agriculture and state departments of agriculture.

A CHALLENGE: Developing Effective Programs in Junior College Teacher Education

GERALD R. FULLER
Teacher Education
University of Vermont

Teacher educators in agriculture have inherited a potential problem regarding their relationships with junior college personnel. Reading the literature regarding junior colleges, one finds that junior college personnel have in the past viewed institutions of higher education as being oriented toward the preparation of secondary school teachers and administrators and the conduct of research-oriented doctoral programs. Those involved in junior college education have been somewhat critical of the help received from senior institutions of higher education.

The Challenge

Institutions of higher education must accept some of the criticism which has been voiced by junior college personnel. Generally, teacher education has been focused almost exclusively on the needs of the common schools and the senior colleges. Professional recognition has often been given to the junior college through innocuous course offerings such as "The Junior College," "History of the Junior College," or "The Philosophy of the Junior College." There has been a dearth of systematic course offerings in such areas as methods of teaching in the junior college, psychology of learning of the junior college student, or student teaching in the junior college. Junior college personnel usually have been asked by teacher educators to relate secondary school focused course work to post-secondary needs. Due to course content this transfer of orientation has not always been easily accomplished.

Agricultural educators have a history of recognizing and meeting the needs of the educational profession. Teacher educators in agriculture are presently in a position to provide leadership in the development of an educational program in junior colleges which will serve junior college personnel. This leadership must be visible to junior college personnel to overcome the traditional image that senior colleges are not concerned with the post-secondary movement. Teacher educators must become closely associated with junior college personnel and familiar with the organizational structure and philosophical framework within which junior college education programs are conducted.

Effective Techniques

A promising approach to developing rapport with and meeting the needs of junior college personnel has been developed at the University of Illinois as part of a growing educational program designed to serve junior college vocational and technical educators in agriculture. In-service education courses have been initiated by the Agricultural Education Division for newly employed and for experienced junior college teachers of agriculture. These courses are designed to include both group instruction on the University of Illinois campus and individual instruction on the junior college campuses where the faculties are employed. The university staff and the junior college personnel have been able to establish a common ground for discussion based on real situations. The personal contact with junior college teaching personnel and their administrators has been extremely well accepted. There is no doubt in the minds

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Generating Effective Programs in Area Schools

WILLIAM L. HULL, Teacher Education
Oklahoma State University

The concept of area schools for vocational education attempts to provide comprehensive yet diverse programs of occupational preparation. Essentially, the area concept is a mechanism for fulfilling its basic function - to bring together a volume of students, a broad encompassing base, and specialized practical teachers to develop and refine a product in consultation and cooperation. The effectiveness of an area school program in vocational education depends on the resources it commands as well as the cooperative commitments of its leaders.

The Aim
Area school personnel must be committed to meeting the vocational and technical needs of all the people. They must prepare in small groups . . . that group of all ages in all communities . . . will have ready access to vocational training or retraining . . . This means that rural youth as well as inner city youth should have the same opportunity to pursue vocational or technical training as other youth. The increased cost of travel or the inadequate tax base of ghetto schools can no longer be allowed to limit opportunity for occupational preparation.

Course Initiation in Area Schools
An efficient state-wide system of post-high school course offerings in vocational and technical education important contributions on the initiation of programs in local schools. Offering a highly specialized curriculum in minimum location requires the identification of an area school most likely to obtain sustained enrollment. Procedures must be developed to enroll persons in the program who need it regardless of where they live in the state. Such a systematic approach to vocational and technical education requires much coordination. Few states have devised efficient operations. This can be done only when directors of vocational education consultant, relevant state agencies on occupational training needs. Figure 1 provides a schema for channeling suggestions for area school programs. Figure 1 has an idea for a course to be initiated. Such an idea could come from a single employer in a school district, a trade group such as the Farm and Power Equipment Dealers Association, or from within an area school district. The idea may be reviewed by the state agency responsible for employment security before it is passed on to the director of vocational education. The director validates the demand for such a course with employment security before submitting the proposal to the state-wide curriculum coordination committee.

Such a committee serves as a clearing house of ideas. Representatives from the State Board for Higher Education, the Junior College Association, trade and industrial organizations, Employment Security, and other groups exchange information. Where to locate a program and at what level (high school, junior college, or adult) are decisions which should be influenced by members of the committee.

Complement Not Duplicate
Occupational needs within the state could be met by the appropriate level of educational service. Vocational training should be taught at post-high school institutions. Saturation of the labor market could be controlled by eliminating duplicating efforts. Low, high cost programs would be located near employment opportunities. Program participants from all areas of the state would expect to have equal opportunity to enroll in the course.

Area school educational programs can extend the ability of the public school system to prepare youth for occupations. Area school systems are not intended to divide adolescents into categories labeled "vocational" and "academic." Rather, the role of the area school is one of making the public school system more comprehensive and more available to all youth.

Increasingly, area schools are developing programs for students who cannot profit from regular classes in area schools. Students in need of rehabilitation can be grouped together in classes of sufficient size in area schools to justify specially trained teachers.

High school students who need to earn money while attending school can find three-hour time periods ideal for cooperative occupational experience programs. These programs work in businesses under the supervision of both the training program manager and a qualified teacher-coordinator from the school system.

Features of Effective Programs

The program begins at the participants' level of knowledge.

Area school programs attend to the needs of the community.

The curriculum discourages poverty, occupational alienation, and geographic immobility.

The learning experiences increase the student's desire to learn more.

Area schools do not duplicate high school programs; rather, they supplement and extend vocational education for greater job proficiency.

The program admits students on the basis of need for the training rather than on race, color, or geographic location.

Maximum use is made of equipment and facilities.

The impact of an extended system of vocational and technical education emphasizes the need for adequate vocational guidance in high schools. High school students selecting specialized career-oriented area school programs must know enough about the occupation to select the appropriate occupational training. This requires the student to have a knowledge of himself and an awareness of the occupational structure of society. Hopefully, vocational programs in high schools can meet this challenge.

Developing Effective Programs in Junior College Teacher Education

(Continued from page 191)

The junior college personnel, the specific interest in junior college education possessed by the university instructors.

The group instruction in these colleges is focused upon the needs of the junior college personnel enrolled. The use of resource persons who are directly involved with junior colleges, or problems associated with junior colleges, is a strong point in the design of courses. Representatives of the Illinois Junior College Board, the State Board for Vocational Education, and Rehabilitation, the State Junior College and University, the Colleges of Education and Agriculture, the U. S. Office of Education seminar program for post-secondary education in agriculture, and personnel from agricultural business have been used in the role of resource persons. This technique also has been well received by the junior college teachers, their administrators, and the resource persons themselves. The involvement of persons working in and with junior colleges has helped establish a good rapport between the Agricultural Education Division staff and junior college personnel at all levels.

Summary
The traditional image of teacher education held by many junior college teachers and administrators is not as favorable as one might expect. This less than favorable image may be due in part to the partial failure of teacher educators to fully recognize and meet some of the unique needs of junior college agriculture and the profession. The involvement of persons working in and with junior colleges has helped establish a good rapport between the Agricultural Education Division staff and junior college personnel at all levels.

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COORDINATING SECONDARY AND POST-SECONDARY PROGRAMS

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Kenesha Technical Institute
Kenesha, Wisconsin

It is recognized that the junior college is a key element in the secondary and post-secondary educational program. It is the junior college that provides educational opportunities to high school students who may not be able to attend a four-year college. The junior college provides a variety of programs that are designed to meet the needs of high school students who may not be able to attend a four-year college.

Area Districts

Through legislation in 1911, Wisconsin was one of the first states to provide a state-assisted program of vocational education. This program was designed to prepare young people for employment in various fields. The program has been successful in providing young people with the skills they need to succeed in the workforce.

Some Suggestions

I offer the following suggestions for improving the articulation between high school and junior college programs:

- Increased utilization of technology in the classroom
- Improved collaboration between high school and junior college faculty
- Improved communication between high school and junior college administrators

Cooperative Planning

Agricultural education leaders at the state and local levels must work together to ensure that students have the opportunity to receive a quality education. This requires collaboration between state and local education leaders, teachers, and students.

The article in this issue of the ATRA journal discusses the importance of cooperative planning between high school and junior college programs.

Community Programs

Junior college programs are an integral part of the educational system in Wisconsin. They are designed to provide students with the skills they need to succeed in the workforce. The programs are designed to be accessible to students of all backgrounds and abilities.

The 1967-1968 Junior College Directory provides information on the various junior college programs in Wisconsin. This directory is a valuable resource for students and parents who are considering junior college programs.
Operational Procedures for Multiple-Teacher Departments of Vocational Agriculture

DONALD E. ELSON, Graduate Student
Michigan State University

The number of multiple-teacher departments of vocational agriculture in Kansas doubled from 1963 to 1968. This is the result of programs being offered which were broader in scope and of interest to more students including those in agricultural occupations made possible by the Vocational Education Act of 1963 and increased emphasis on young and adult farmer programs. Another factor contributing to the number of multiple-teacher departments in Kansas is the unification of small rural high schools. The continued improvement and expansion of existing programs and the introduction of new programs, and unification of the smaller rural schools will continue to increase the need for more multiple teacher departments of vocational agriculture.

Research

This article reports research conducted to study and develop procedures for establishing and operating multiple-teacher departments of vocational agriculture. The study, which was designed in cooperation with the Kansas Board of Agriculture, was designed to compare the opinions of four groups concerning the operational procedures of multiple-teacher departments of vocational agriculture. The four groups were teachers and administrator, and the students and supervisory personnel of each school. The study was conducted by the Kansas Board of Agriculture and the Cooperative Extension Service.

Conclusions

—An additional teacher could be justified because of the high demand for young and adult farmer courses.
—A high demand for specialized training of high school students could justify an additional teacher.
—Administrators, teachers, and state supervisory personnel should have a direct role in the development of policies for multiple-teacher departments.
—Assignment of teaching duties should be made through the cooperation of all teachers and the administrator. Assignments of duties should be in writing. A definite assignment should be made concerning reports.
—Students should be grouped according to year in school and taught by teachers specializing in particular areas.

Supervisory visits should be made by the teacher with a specialization which corresponds to the student's needs. At least one teacher should be scheduled during each school day for supervision.

—A multiple-teacher department should not have more than one FFA chapter and all duties of the adviser should be assigned to one teacher. The training of teachers should be the responsibility of the teacher with an interest in the particular area.
—Advisory councils are necessary for effective operation of multiple-teacher departments.

Producing Vegetable Crops by George H. Branch, University of California, Davis. Each has distinguished himself in an author, scholar, and researcher. Their first book together, titled "Vegetable Production," has been widely read and used throughout the world.

This book can be used as a text for plant propagation courses at the junior college and senior college levels. At least one copy should be on the shelves of every high school where horticulture, biology, or plant science courses are offered. It is an important source of information for professional horticulturists and amateur gardeners.

Paul E. Henss
University of Illinois


The first part of this book deals with the general aspects of propagation and propagating structures. Sexual reproduction principles and practices are covered in the second part of the book. Asexual propagation including cutting, grafting, budding, layering, and budding. Propagation of various plants, roots, and bulbs are covered in the third section of the book. Aspects of micropropagation are described in the fourth section. The last two chapters are devoted to the propagation of fruit and nut species, ornamental shrubs, shade trees, woody vines, and selected annual and herbaceous perennials. In this part of the book propagation methods are described on an individual plant basis. This book contains information on the art of propagation, the science of propagation, and the characteristics of various plants. It thus has much to offer both the practitioner and the theoretic, the amateur gardener and the professional horticulturist, and the student and the teacher. Both the how and why of propagation are included in this book.

R. F. Ennecit
State Department of Education
Little Rock, Arkansas
Characteristics of Students in Technical Agriculture Programs

WILLIAM J. BECKER, Teacher Education
University of Florida

RAPEL E. BENDER, Teacher Education
The Ohio State University

Students and graduates of technical agricultural programs in Ohio are well pleased with their training and will encourage others to enroll. Also employers are well satisfied with the performance of graduates of technical programs and will employ other graduates of technical agriculture programs.

The typical student in technical agriculture programs in Ohio was nineteen years of age when he enrolled. He had previous farm experience, having lived on a farm within fifty miles of the technical school. His father is employed in farming or in another agricultural occupation. Fewer than half were high school graduates and ranked, on the average, at the 47 percentile of his high school class. He achieved grades slightly above a C average in high school.

Students were encouraged to enroll in technical agriculture programs by their parents, vocational agriculture teachers, and technical school representatives. By enrolling and completing the program, the enrollee felt he could increase his earning capacity, obtain more desirable employment, and improve his opportunities for advancement.

These are some of the conclusions reached in a study of the post-secondary technical agriculture programs in Ohio which was completed in 1960.

The Study

The purpose of the study was to identify the characteristics of students in four technical agriculture programs in Ohio and to determine the association between selected student characteristics and their success in the program and later employment. Programs of technical agriculture offered in Ohio are Agribusiness, Agricultural Mechanic, Food Processing, and Horticulture.

This article is based on William J. Becker's Ph. D. dissertation, "Technical Agriculture Programs in Ohio with Emphasis upon Student and Program Characteristics," which was completed at The Ohio State University in 1960.

A summary report of the study is available from the Department of Agricultural Education, The Ohio State University, Columbus, Ohio 43210.

William J. Becker

Data were collected on all 287 individuals who had enrolled in technical agriculture programs in Ohio since the programs were initiated in 1963. Included were 86 graduates and 71 dropouts in addition to those currently enrolled. Employers of graduates were also surveyed.

Major Findings

—A student's high school grade point average in English, his overall high school grade point average, and his intelligence quotient were believed to be the three best predictors of his ability to succeed in a technical agriculture program.

—Students with an agricultural background and experience achieved a slightly higher grade point average in their technical program than students lacking this background.

—One-half of the students commented about their home and the technical institute. Three of every four students were employed while enrolled in the technical agriculture program.

—Another 50% of the students worked in a technical agriculture program.

—The majority of the students in the agriculture and business mechanics programs had a variety of prior agricultural experiences. Fewer students in the food processing and horticulture programs had an agricultural background.

—Fifty-nine per cent of the graduates were employed in an occupation for which they were trained. Another 7 per cent were in other agricultural occupations, primarily farming; 7 per cent were in college, 18 per cent were in the military service, and 9 per cent were in non-agricultural occupations.

—The average starting salary of graduates was $590.00 per month. Their present salary, reported by their employer, was $695.00 per month after an average period of employment of thirteen months.

—Graduates who were raised on farms had a higher grade point average in their technical program than those students raised in other environments.

—Supervised occupational experience was an integral part of the technical agriculture programs at the time of the study. Nevertheless, 35 per cent of the students and 85 per cent of the graduates indicated that supervised occupational experience should become an integral part of the technical agriculture program.

—Seventy-four per cent of the students indicated that the technical agriculture programs should continue to be two years in length. One-fourth suggest longer programs.

—Ninety-four per cent of the students and 68 per cent of the graduates would encourage friends enrolled in the technical agriculture programs.

—The need for a student organization was expressed by 67 per cent of the students enrolled.

—Ninety-one per cent of the graduates indicated that they were satisfied with their present occupation.

—One of four enrollees failed to complete the program. The major reasons given for not completing the program was that the program was not offering what they wanted. However, two-thirds of the dropouts indicated the program had been of value to them.

—Ninety-eight per cent of the employers indicated that they would hire other graduates from technical agriculture programs. They were generally pleased with the preparation of the graduates, but would have liked the graduates to be stronger in the general traits of leadership, initiative, and judgment.

Some Concerns

Technical agriculture programs must be expanded to provide more graduates to meet the employment needs in agricultural enterprises.

It is estimated that present graduates only fill one-tenth of the annual demand for agricultural technicians in Ohio.

A second concern is that more technical agriculture programs be established and that these programs be strategically located to make technical education programs in agriculture readily available to more youth. A concerted effort must be made to inform teachers of vocational agriculture, youth and their parents, and others who influence young people to continue their education of the opportunities for persons who have equipped themselves with technical education in agriculture.

FEBRUARY, 1969

JAMES WALL
Executive Secretary

Many state associations have been working with their teacher education institutions in informing trainees about professional organizations with the result that student membership in NVATA has increased from 15 in 1960 to 960 in 1967.

A brochure entitled "Student Membership Bulletin" is available from the NVATA office, Box 4490, Lincoln, Nebraska 68504. NVATA will also provide teacher education institutions with copies of the NVATA Creed and NVATA Bylaws. Trainees who become student members by paying the $1.00 membership fee receive a student membership card, the Firestone Cash Discount Card, and the NVATA Diary.

* * * * * * *

Membership in NVATA reached an all-time high in 1967-1968 with a total of 10,150. Twenty associations were recognized for having 100 per cent membership and several others lacked but one or two members of being 100 per cent. Membership reports for 1968-1969 will be received at the time of the next meeting of those reported for the same time a year ago which would indicate that the record will be broken again.
Stories in Pictures

Vocational agriculture students work in the land laboratory at the Regional Vocational Agriculture Center at Newville High School, Connecticut. (Photo by The Hartford Courant)

Ralph J. Woodside (left), Professor of Agricultural Education at The Ohio State University and Program Chairman for the National Seminar on Agricultural Occupations: Program Development in Area Vocational Schools held in September 1968, reviews the seminar program with the consultants for the seminar. (Left to right) Harold L. Nowack, New York; Clarence E. Riden, Iowa; Charles Watson, Ohio; P. G. Chermot, South Carolina; William L. Hall, Oklahoma; James Douglass, Ohio; E. D. Anderson, South Carolina; and C. M. Lawrence, Florida. (Photo by Ralph J. Woodside)

J. C. Hollingsworth (right), vocational agriculture teacher at Lancaster Area Vocational Center, Lancaster, South Carolina, conducts a tour of the Vocational Agriculture Department during dedication ceremonies for one of the first vocational centers constructed in South Carolina under the provisions of the Vocational Education Act of 1962. Mr. Hollingsworth used a model greenhouse exhibit to explain the various phases of propagating and growing ornamental plants. (Photo by Willis H. McCarter, South Carolina Department of Education)

Featuring—

STUDENT ORGANIZATIONS