(Dillon — from page 195)

farmer or rancher clientele group in the school service area, determine the present levels of productivity for subgroups depending on the business characteristics, and set production and profit goals for a long range adult education program.

If the farmers or ranchers to be enrolled in an adult education program are to increase the efficiency of their business they must do so by using the best "tools" possible — accurate records. Therefore, farm business record keeping should be the lead course, with the production courses spinning off after one or two years records begin to indicate where class members need to upgrade their efficiency. Production classes will be most meaningful to a farmer or rancher when he can relate the practices directly to production costs or profits based on his performance records.

The local agriculture teacher should plan *with other* agencies such as agricultural extension, agribusiness, and government offices on order to utilize each agencies' talents most effectively.

The agriculture teacher can have more long-range impact on farm or ranch profits through a farm business management adult education program (built on sound record keeping) than any other form of adult education he may undertake in a community. The higher business profits increase the purchasing power of the farmer or rancher, which has desirable side benefits, especially in the more rural areas. Improved standards of living in the home and community can result.

Have you considered that members of the present clientele group are results of previous educational and experience programs whether formal or not, and that proportionately a higher per cent of those graduating from high school who will likely remain or return to the community, will probably be in agriculturally oriented jobs than in any other occupational category in rural areas?

The local agricultural teacher has "everything going for him" when he implements a systematically planned farm business management adult education program, with production classes designed to support the record analysis classes. Such a program will likely require two or more teachers to adequately conduct the secondary and adult programs. If the decision makers on a Board of Education can see the impact of such a program on increased farm business income and community benefits, the chances of implementing such a program are greatly increased. Why not begin with one class of ten couples (man and wife) the first year, and build a case for increased staff with results of a small group?

The farm business management program, planned and taught by the local vocational agriculture teachers, can make the most effective use of the agriculture teacher's competency. Have you considered this approach to adult education?

—RDD

(Gingery — from page 196)

Thus, the concept of management education is the core of a total continuing (Adult) program in agricultural education, with our major thrust toward this concept. Nebraska Vo-Ag men are accepting the challenge enthusiastically. The program is in the "growing" stage and no doubt there will be many refinements and more sophistication in the years ahead.

The management program may also be seen as a development of the human resources in the rural areas improvement through increased farm income and satisfaction.

Nebraska vocational agriculture educators believe they are making a contribution to rural development through the farm and ranch management program.

It is our hope that we may witness continued growth and eventually establish a yet to be determined number of regional full time centers throughout the state. With the continued cooperation of the Vo-Ag teachers, the Ag-Teacher Education Staff, State Vo-Ag Staff, and the necessary funds to maintain this thrust, we will accomplish our objective. ◆◆◆

The Eighth International Seminar on Vocational Education and Teaching in Agriculture will be held August 7th to September 8th in Zollikofen near Berne, Switzerland.

The theme of the Seminar is *Towards a Modern Conception of Teaching.* The main Seminar runs from August 7 to August 23rd, with costs for room and board about $215. A Final Study Field Trip will be held from August 26 to August 28 for an additional $75, and $75 for a post session from August 28 to September 8th. Since the Seminar is sectioned, you could probably complete the main course and fly home in time for school to begin.

The Seminar offers an opportunity for Agricultural Educators from 150 countries to study together. If you desire further information and application materials you may contact the Editor, Dr. Ray Agan at Sam Houston State University, Huntsville, Texas, or write directly to: Secretariat of the ICAE, Division of Agriculture, 3003 Berne, Switzerland. Applications must be received by May 30, 1972.

— Ray Agan

VOCATIONAL EDUCATION WEEK
February 13-19, 1972

Promotional materials are available from AVA Headquarters, 1510 H Street N.W., Washington, D.C. 20005. Order blanks are available in the January AMERICAN VOCATIONAL JOURNAL.

Glen McDowell, President, NVATA, receives congratulations from Don Lehmann (left) 1970-71 National FFA President upon his receipt of the Honorary American Farmer Degree, at the recent National FFA Convention held in Kansas City, Missouri.

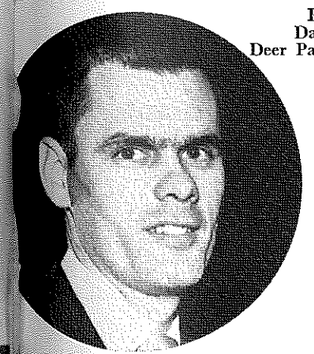
AGRICULTURAL EDUCATION

Agricultural Education

Volume 44 March, 1972 Number 9

Region I
Dan Birdsell
Deer Park, Washington

Region II
Eugene R. Ruby
Denver, Colorado



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Region III
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1971 NVATA CAREER ORIENTATION WINNERS

Region V
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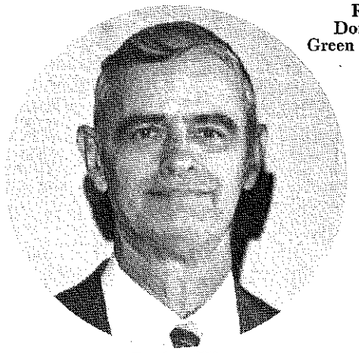

Region IV
Glenn H. Griffith
Westerville, Ohio

Theme — COMPETENCIES FOR CAREERS IN AGRICULTURE

The
Agricultural Education
Magazine

EDPRESS Vol. 44 March, 1972 No. 9

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This publication is the monthly professional journal of agricultural education. The journal is published by THE AGRICULTURAL EDUCATION, INC., and is printed at the Lawhead Press, Inc., 900 East State Street, Athens, Ohio 45701.

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Send articles and pictures to the Editor or to the appropriate Special Editor.

COVER PHOTO

The six Regional winners of the NVATA Career Orientation contest sponsored by the New Holland Division of Sperry Rand received all-expense trips to the NVATA convention held in Portland, Oregon. Awards were presented at the convention by Dave Kramer, Assistant Communications Supervisor of New Holland-Sperry Rand, New Holland, Pa.

Editorials

From Your Editor . . .

YOUR PROFESSIONAL RESPONSIBILITY


Roy D. Dillon

The theme for this issue is supported by several excellent articles that spell out clearly to a teacher of agriculture that — **The secondary and post-secondary educational programs must be career oriented!** The teacher of agriculture who is fulfilling his professional responsibilities to his community will: (1) **know** the breadth of opportunity for agricultural jobs on and off-the farm in his local community, area, and state, (2) **prepare** practical training plans with students for occupational experience situations, (3) **plan** systematic classroom instruction tied directly to needs of the students' occupational experience programs, and (4) **involve** citizens consulting groups in planning and evaluation of his total program.

Today's vocational teacher is influencing the lives of persons who will begin working in the labor market about 1974-75 as graduates, and who, if they pursue a 40 year working life, will still be in the labor force in the year 2015.

If our technologies change to the extent we have seen during the past 40 years, one can only dream of the changes to come! Nevertheless, the teacher is in the school today and the students are present today. Based upon previous experience we know the typical worker will change jobs four or more times during his working life, depending upon several factors. The best the secondary teacher and post-secondary teacher can hope to do is **the best job possible** in providing each of their students with (1) those skills, knowledges, and abilities which will enable the student to enter and progress in the world of work, and (2) occupational principles which will transfer as technology advances, so the worker can adapt to changing job situations —RDD.

Guest Editorial . . .

CAREER EDUCATION FOR ALL AMERICA'S YOUTH

Robert M. Worthington
Associate Commissioner
Bureau of Adult, Vocational and Technical Education
U.S. Office of Education


Robert M. Worthington

American education is in need of reform so it can better serve the needs of all the children of all the people! There are too many urban schools and too many rural schools in this country that have children who are scoring 12-36 months below grade levels in basic skills. Our drop-out rates are too high. Absenteeism is too common. Vandalism, violence, physical assault on school personnel and fellow pupils are too prevalent. Parents often have doubts about the efficiency of public school systems. Taxpayers are increasingly voting down our school bond issues, often knowing it will mean closing of the system or severe curtailment of the school programs. If we are going to implement educational reform in the seventies, we must reshape education to meet all the needs of all the people.

All of us who have dedicated our lives to the vocational and practical arts education must assume a vital role in the responsibilities of reforming American education at all levels. We at the Federal level earnestly solicit your ideas, your insights and your support as we undertake very positive initiatives in regard to career education at this juncture in our social-economic history.

Education has become the nation's largest enterprise; it now costs $85 billion a year which surpasses our defense expenditure. The per pupil cost is roughly $1,000 a year, or $12-13,000 dollars to get each youngster through the first twelve grades. Of the 3.7 million young people who left the formal system in '70-'71, nearly 2.5 million lacked skills adequate to enter the labor force at a level commensurate with their academic and intellectual promise. Many left with little in the way of marketable skills. **Nearly 850,000 young people dropped out of elementary and secondary school last year.** Let's assume on the average that they left at the end of the tenth grade. At $8,000 dollars per child to get them that far, the total cost to the nation is estimated at 9 billion dollars. **There were 750,000 young people graduated from the high schools of America in the general curriculum,** with little or nothing

(Continued on next page)

to offer prospective employers. At $12,000 dollars per student the total cost to the nation for those 750,000 youngsters was approximately 9 billion dollars. **850,000 young people entered college and dropped out without a degree**, most of them during the first year of college. Let's assume, on the average that they left at the end of the first year; (most of them left before that,) which adds another $3,000 to the $12,000 per pupil cost. Total cost to the nation for this group of young people — $12 billion dollars. There were also many young people who were not employable. These three groups of youngsters represent a combined outlay of nearly $28 billion in expenditures, or about 42 percent of the entire amount spent on education in this country last year. We spent billions and prepared 2.5 million young people for potential disenchantment, for aimlessness and failure. Year after year we have been doing this. Even more distressing are the losses we cannot calculate in dollars; the loss of confidence, of self-esteem, the sense of alienation, or a feeling of non-fulfillment that burdens many young people as they embark upon their adult lives. The results of these early failures, of course, usually turn up in unemployment, in welfare, in crime, in juvenile delinquency, in incarceration, and in recidivism.

Employers complain that young adults are inadequately trained by the public schools, that they leave the school system without any appreciation of the dignity of work, often with insufficient skills to meet the requirement of today's technological society. Students themselves voice complaints related to the relevance of their school curriculum. They maintain that the curriculum doesn't prepare them for the options available in the outside world. Unfortunately, not enough of the high schools offer students the opportunity for job training and counseling that will enable them to enter the job market with a skill or to continue their education.

By 1980, according to the Department of Labor, 8 out of 10 jobs will not require a four-year bachelor degree.

A U.S. Department of Labor study shows that the typical member of the labor force without a college education will hold on the average of 8-12 different jobs during his 40 years on the job market and that currently only one high school student in four is touched by vocational education.

Currently, only one high school student in four is touched by vocational education.

A much better alternative is *career education*. Career education restructures basic school subjects around the theme of Career Development. It is designed to assure that all students who graduate from high school will have salable skills and/or will be prepared for further education. It also requires some definite changes in curriculum and educational practices in all areas. Career education is not a synonym for vocational education, or for general education, or for academic education, or for college preparatory education. But rather career education is a blending and restructuring of all of these into new curriculums with vocational or occupational skills training playing a key role. The fundamental concept of career education is that all educational experiences and all educational curriculum are structured, and counseling should be geared to the preparation for economic independence, for development of appreciation and dignity of work, and for personal fulfillment. Ideally under career education, if we were able to implement this concept nationally, every student would leave the high school with at least an entry-level skill or the capability for continuing his education in post-secondary institutions either technologically or academically oriented.

Career education is designed to assure that all students who graduate from high school will have salable skills and/or will be prepared for further education.

Agriculture or agri-business is the nation's largest and most basic industry and it still needs expansion. Vocational agriculture teachers can be and must be instrumental in maintaining standards of vocational agriculture, in training some students to remain or return to the farm. Simultaneously they must be training others for careers for the multitude of allied occupations in agri-business. There is a firm mandate for teachers, for supervisors, for state education agencies, and for the United States Office of Education to work together in restructuring and expanding both on and off farm agricultural programs around the career education theme.

The total agricultural industry must have better more comprehensive agriculture and agri-business programs today than ever before.

The total agricultural industry must have better, more comprehensive agriculture and agri-business programs today than ever before. This is possible under career education which starts in the early elementary grades, with career awareness at the lower levels, and career orientation and exploratory experiences in the middle-school and junior-high. I hope that all of you will emphasize that career education at the K-6 and 6-9 level is for all young people; for the rich or poor, for urban, suburban, or rural. All youngsters need this kind of occupational awareness and occupational orientation so they can make personal career decisions themselves.

How can we best train the increasing number of students for key and support roles for the agricultural industry? We solicit your help in bringing about educational reform in all realms, so students can make realistic, satisfying career choices. More than 500 occupations exist in agriculture and allied fields and each occupation carries with it a requirement for specialized training. This means vast new challenges and opportunities for you as agricultural educators. To make agri-business and natural resource education part of the total career education thrust we look to you for the development and implementation of meaningful and viable programs which will be mutually beneficial to the students and to our nation! ◆◆◆

THEMES FOR FUTURE ISSUES

June —	**Teaching Methods**
July —	**Planning The State and Local Program**
August —	**Evaluation**
September —	**A Guidance Role**
October —	**In-Service Education**
November —	**Agricultural Education in Transition**
December —	**Post Secondary Education**

MR. VO-AG TEACHER — I AM DIFFERENT: — An Analysis of Agribusiness Students In Vocational Agriculture

John F. Thompson
Teacher Education
University of Wisconsin, Madison

WHEN COMPARED TO THE FARM STUDENT, THE NON-FARM STUDENT COMES TO THE VO-AG CLASSROOM WITH:
- **—less occupational experience**
- **—a history of slightly less intensive involvement in school intra and extra curricular activities**
- **—the same desire to explore an occupational area rather than having already decided to make agriculture his career area**
- **—an interest in broadly defined conservation career areas rather than production areas of agriculture**
- **—a little more consistency in identified career areas**
- **—higher career aspirations but lower career expectations**
- **—a significantly lower vocational maturity score**
- **—relatively equal grades in academic courses but lower grades in vo-ag**

For several years, and particularly so since 1963, vocational agriculture personnel have been designing programs to serve a broadening clientele group. This has been a deliberate attempt to have vocational agriculture better serve the agri-business complex. As this happens, a key question becomes: Does the new student interested in an agri-business career differ from the farm student of the past interested in farm ownership?

Wisconsin is in its fourth year of designing pilot programs in vocational agriculture.[1] These programs are intended to broaden the local school's curricula so that they might include agri-business students. Data have been gathered on each student each year of the pilot program.[2] These data reveal sharp differences between two groups of students — farm and non-farm — who are attracted to programs that may lead to careers in agri-business. The vo-ag teacher, curriculum coordinator and local school administrator need to understand what these clientele differences are if they are to make realistic plans to develop the students' competencies for careers in agricultural businesses.

This article will report some of the differences that appear between non-farm and farm students in agri-business programs. All differences noted here have been observed for three years. Also the students are all high school juniors (33 percent) and seniors (67 percent). During this time nearly 800 students in sixteen high schools have been involved. The high schools serve small rural as well as large urban communities.[3]

Residency appears to be the most critical variable in designing agribusiness programs. **Almost all of the differences between students can be focused around their place of residency.** Two in three of the students attracted to the agri-business programs do not have a farm background.

Non-farm students (NFS) have had less occupational experience than farm students (FS). Of the non-farm students, 76 percent have had no or very limited experience at jobs. In contrast, 80 percent of the farm students have had some occupational experience. The NFS also is less active in school organizations such as FFA, sports, band and student council. Participation in out of school organizations such as church and 4-H is about equal for the two groups.

Regardless of place of residence, 66 percent of the students enrolled in agri-business programs hoped it would help them to choose an occupational area. That is, two in three NFS as well as FS enrolled in the agri-business course for exploratory reasons. They wanted to learn what work in the area was like. The other students enrolled because they had decided on an occupational area and the program would help them to be better qualified for that occupational area after high school graduation. Thus, one in three of these juniors and seniors were definite about their career area.

If careers in the conservation area are broadly defined so that forestry, natural resources and horticulture are included, then it can be said, that NFS are attracted to these or non-agricultural jobs. Only about 5 percent are attracted to careers in production agriculture. In contrast, 33 percent of the FS are attracted to careers in production agriculture. Surprisingly a very limited number, less than 5 percent, were interested in careers that could be classified as agricultural supply or agricultural mechanics.

Career aspirations — that kind of career one would choose if he were perfectly free to choose without any reality considerations — were higher for the NFS than they were for the FS. Career expectations — that kind of career you really expect to have based on some idea of personal limitations, etc. — were lower for the NFS. Thirty-one percent of the NFS aspired to occupations in the lower levels (skilled, semi-skilled, and unskilled occupations) while 41 percent expected to get employment at these levels. In contrast, the FS reported 20 percent and 33 percent respectively for each category. Differences at the higher levels on the occupational scale were as consistent. Nine percent of the NFS

(Continued on next page)

WHEN COMPARED TO THE FARM STUDENT, THE NON-FARM STUDENT SIX MONTHS AFTER GRADUATION FROM HIGH SCHOOL:

- **—obtained jobs with equal swiftness**
- **—is less committed in length of time he plans to retain the job that he gets**
- **—is interested in additional training for present or another job**
- **—obtained employment within the same geographical proximity of his home high school**
- **—works for lower wages**
- **—expresses lower job satisfaction**
- **—expresses greater dissatisfaction with his high school education, with the courses available to him, and with the guidance he received**
- **—rates the vo-ag class good rather than excellent**

aspired to the professional level occupations and three percent expected to obtain careers at this level. Farm students in each category were equal with five percent aspiring and five percent expecting to obtain this level of employment. Farm students, then, were generally expecting to get the same level of job to which they aspired. It is normal and healthy for career expectations to be lower than career aspirations. Much research has been reported that suggests that FS have generally had limited vision in choosing occupations.[4] This apparently is also true for those FS who enroll in an agri-business program.

Scholastic performance is also different between the non-farm and the farm students. A majority of the students reported average grades in academic courses and average grades in agri-business courses. FS, however, have much higher grades in agri-business courses than do NFS. The reasons for this have not been researched. One possibility is a natural student advantage which could very well be experience based. Farm students may simply have gained through their life on the farm a knowledge of terms, conditions and scope of agri-businesses. Another possibility is an instructor bias in planning course content and in grading due to his own farm background.

The graduates of the agri-business pilot programs have been followed up six months after high school graduation. Differences between the NFS and the FS continue to be observed.

Nearly 70 percent of both groups obtained full-time jobs within two weeks of high school graduation. Less than three percent did not have a full-time job six months after high school graduation.

The NFS is not very committed to the job he holds six months after high school graduation. Thirty-one percent indicated they would like to change jobs soon and another 36 percent indicated they expected to hold their job for one to three years. The remaining 33 percent expected to make a career of their present job. In contrast, 63 percent of the farm students expected to make a career of their present jobs. Related to this was their interest in additional training. Here the NFS expressed greater interest in training for another job (37 percent) than training for present jobs (34 percent). The other 31 percent were not interested in additional training. Farm students' greatest area of interest lay in additional training for their present jobs (45 percent).

Ninety percent of both groups obtained their jobs within ten miles of their home high school. Thus, they are employed in their home communities. The NFS reported lower wages than did the FS. The differences in the average weekly salary would approximate $12. Eighty percent of the NFS worked for $111 or less per week while 62 percent of the FS did so.

Job satisfaction was lower for NFS. Seventy-eight percent of the NFS rated their jobs fair to good while 87 percent of the FS rated their jobs one category higher, good to excellent. This same general trend was noted when their satisfaction about high school education, courses available and guidance were expressed. This is also true when rating their agri-business program. Nearly 60 percent of the NFS students rated it good while nearly 50 percent of the FS rated it excellent.

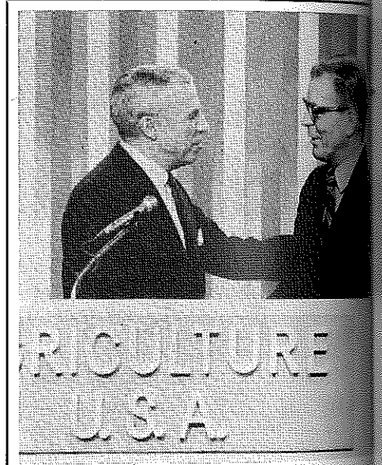
The non-farm student, then differs sharply from the farm student. This is true even though they are both enrolled in an agri-business program to explore, to learn what it is like to follow a particular kind of work. These differences are expressed in many ways. They must be considered when planning agri-business programs because the curriculum implications are many fold. Suffice it to say that a number of questions need to be answered by the curriculum planner for agri-business courses. Among these is the basic question, can the non-farm student and the farm student be served adequately in the same agri-business program? ◆ ◆ ◆

[1]A state-wide committee representing high school teachers, Department of Public Instruction, and teacher educators initiate proposals and supervise the programs.

[2]Support for this research effort have come from the Research Committee, University of Wisconsin Graduate School and from section 131(b) part C funds of the Vocational Education Amendments of 1968 through the Wisconsin Department of Public Instruction.

[3]Six research reports have been issued to date. Number 4 reports student characteristics 1970-71. Number 5 reports the student characteristics for the disadvantaged student, and Number 6 contains follow-up data of graduates.

[4]For example see Lee G. Burchinal, *Career Choices of Rural Youth In A Changing Society*, North Central Regional Publication, No. 142, Agricultural Experiment Station, University of Minnesota.



The Fourth Annual AGGIE AWARDS program is being telecast via syndication on stations throughout the U.S. Its purpose is to place the spotlight on individuals who have made significant contributions or set outstanding examples in the field of agriculture. Pictured above is host John Stearns presenting the Vocational-Agricultural Teachers award to Millard Gundlach of Montfort, Wisconsin. Mr. Gundlach is a past president of NVATA. Other recipients included U.S. Senator Jack Miller of Iowa (Public Official award), Brooks McCormick, president of International Harvester (Agribusinessman award), Kristi Silkwood of O'Neals, California (Farmerette citation), and Merrill Kelsay of Whiteland, Indiana (Young Farmer award). AGRICULTURE U.S.A. is a public service television series aired weekly across the nation. Check your local program listings.

A METHOD OF GROUPING TOPICS FOR INSTRUCTION:

Essential Knowledges and Skills for Agricultural Supply Businesses

Hollie B. Thomas

Hollie B. Thomas
Assistant Professor
University of Illinois

and

George W. Leighty, Instructor
Agricultural Occupations
Mulberry Grove, Illinois

George W. Leighty

The grouping of materials to form meaningful units of instruction has been a topic of concern among agricultural educators since the inception of vocational agriculture. The organization of material presented has varied from the unit or mini-course to a cross-section to a modified cross-section. At the present time, variations of these three basic approaches are being used by teachers of agriculture.

Traditional methods used to group problem areas into instructional units include (1) the enterprise approach, where each unit is comprised of a phase in the production of a particular enterprise, and (2) the scientific (or principles) approach, where a principle, such as preparing a seedbed for all crops, is explored.

In courses in production agriculture, these units of instruction are fairly clearcut; however, this is **not** the case in the development of teaching units and training plans for agricultural supply work experiences. Here, the problem is compounded by the variety of agricultural supply businesses studied, including such diverse distributors as those of feed, seed, fertilizer, grain, and petroleum products.

A New Approach

The statistical relationship of the ratings given by employers in the various types of agricultural supply businesses to the knowledges and skills needed by an employee in order to succeed in that business formed the basis of the topic groupings. Data for these ratings were gathered through use of a 100 item questionnaire developed specifically for this purpose, and contained items concerning the knowledges and skills considered essential to agricultural supply employees. Responses were made on a nine-point continuum, ranging from "very essential" to "not essential." The questionnaire was mailed to employers in agricultural supply businesses in which junior college agricultural supply program student-trainees were placed for on-the-job work experiences. The employers were asked to rate the degree to which the various knowledges and skills are essential for an employee to have if he is to succeed in that endeavor. The employers, thus selected, represented businesses in seed, feed, fertilizer, petroleum, and various combinations of these businesses. Knowledges and skills receiving a rating of 4.0 or greater were considered to be essential attributes for employees in these fields. These items, then, were submitted to the statistical technique of factor analysis, whereby the items are grouped into categories, called factors based on their statistical relationships.

The factor analysis yielded six meaningful factors (groups of statistically related items) of knowledges and skills. These factors are listed below, along with a description of each factor, and some sample items.

Factor 1. Knowledges and Skills in Feed, Seed and Fertilizer Businesses

This factor includes agronomic knowledges and skills needed by employees in certain agricultural supply businesses.

Examples:

- Know soil reaction principles
- Know crop rotation principles
- Know tillage requirements
- Know how to determine the quality of grain
- Know crop varieties

Factor 2. Livestock Industry Knowledges and Skills.

The factor includes knowledges and skills needed by employees of agricultural supply business related to the livestock industry.

Examples:

- Know vitamin requirements for livestock
- Know approved livestock feeding methods
- Understand the influence of heredity on livestock rate of grain
- Identifying insects of livestock
- Know how to operate a feed mill

Factor 3. Sales and Business Operations.

This factor includes knowledges and skills essential to employers in an agricultural supply business regarding the operation of the business. These items are not limited to the sales person. Rather most are procedures that all employees should observe.

Examples:

- Know the principles of suggestive selling
- Know the principles of customer relations
- Operate product moving equipment
- Working with people in business
- Taking an inventory

Factor 4. Management of Agricultural Supply Businesses.

This factor includes knowledges and skills that persons in managerial positions may need to know or be able to do.

Examples:

- Communicating with customers
- Keeping records of sales
- Know how to protect products from rodents
- Purchasing supplies
- Bagging products and supplies

(Continued on next page)

(Thomas & Leighty-Con't.)

Factor 5. Work Habits.

This factor contains the work habits essential for employees. Employers rated these items as being very essential for employees in agricultural supply businesses.

Examples:

- Reporting to work on time
- Doing work accurately
- Paying attention to his work
- Making effective use of work time
- Practicing safety on the job

Factor 6. Interacting with Customers.

This factor reflects the concept of interacting or dealing with the customer both verbally and through service provided.

- Advising farmers of feed and management practices
- Reading product tags and labels
- Pricing agricultural products
- Figuring sales tax on a ticket
- Loading and unloading supplies

Use of the Factors

The clusters of items produced through this factor analysis are meaningful groupings which may be utilized for instructional purposes. The groupings, along with the instructional areas they represent, may be used by agricultural teachers for:

- Planning units of instruction for high school courses in agricultural supply.
- Planning junior college courses for students in the agricultural supply curriculum.
- Formulating training plans for agricultural supply student-trainees placed for work experience.
- Constructing sequencial experiences that will lead to competence in agricultural supply occupations.
- Developing comprehensive programs of agricultural occupations using some of the clusters of knowledges and skills essential to employees in agricultural supply businesses as a core for the development of curricula in other occupational areas needing the same competencies. As reflected by the names of the factors, competencies needed by the employee in agricultural supply businesses borrow heavily from those needed by the person in production agriculture or the professional farm manager.

In addition, the topics can be used in any order of presentation since they each represent the development of a set of skills relevant to an agricultural supply businessman. Many of the activities that should be included in training plans for students placed for work experiences are seasonal, while some such as work habits, are skills that should be practiced for the total duration of the experience. Hence, the order of experiences the student may obtain may depend on the opportunity to perform the activities. However, upon completion of the six units (based on the six identified factors) the student should have acquired the necessary skills to be a successful employee in an agricultural supply business.

Conclusions

The procedure used in this study has implications for use in many other areas as a means of categorizing the various problem areas or topics. In the present study, necessary knowledges and skills were rated by employers and formed the basis of a statistical grouping of these items. Based on the groupings, or factors, logical and meaningful units of instruction can be developed. To implement these instructional units, the instructor should first determine the problem areas to be taught and secondly, the optimum order of presentation, based on the availability of the various work experiences. ◆◆◆

AGRIBUSINESS IN NEW YORK:

— A Profile of Agribusiness Workers and Firms[1]

Arthur L. Berkey
Assistant Professor of Agricultural Education
Cornell University, Ithaca

Arthur L. Berkey

Students in secondary level agriculture classes are being prepared to enter agricultural, i.e. agribusiness[2], occupations. Yet many aspects of the nature and extent of agribusiness are undefined. This is especially true for the non-farm, i.e. processing and supplying, areas. This study was a first step in an effort to build a body of knowledge about agribusiness occupations in New York.

PURPOSE OF THE STUDY

To provide a more comprehensive body of knowledge about agribusiness in New York that may be used as a basis for manpower planning and organization.

METHODOLOGY

Agribusiness production (farm), supply and processing firms, and workers in the 9 county area of Rochester, New York was the population studied. The operational definition of agribusiness used limited the population to firms directly supplying production inputs, farms, and firms engaged in primary processing. Interviews and questionnaires were used to gather data on: occupational images, worker background, and job satisfaction; recruitment practices and problems; worker mobility; and occupational projections.

FINDINGS

Due to the extensive nature of the study, the writer has selected for presentation only those findings having implications for vocational agriculture.[3]

AGRIBUSINESS WORKER PROFILE

1. The typical agribusiness worker was a male who was born in the geographical area where he was employed, had a farm background, and lived in a rural area.

2. Over three-quarters of farm production and supply workers, and over one-half of processing workers had fathers employed in agribusiness when they were growing up.

3. The median age for farm production workers was 41.5 years compared to a median age of 43 years for processing workers and 44.4 years for

(Continued on next page)

supply workers.

4. Thirty-eight percent of all workers had some kind of vocational training, typically agriculture in high school.

5. Over one-half of agribusiness workers desired more training if they had the opportunity to do so.

6. Self-employment was reported by 25 percent of all workers. Fifty-seven percent of production workers were self-employed compared to only 1.3 percent of processing workers.

7. The majority of all workers work more than 40 hours a week.

8. Almost all (94 percent) of supply workers worked in small (less than 70 workers) firms while most processing workers were employed in large (more than 70 workers) firms.

9. Agribusiness workers had about the same educational level as does the total U.S. labor force.

10. Average job tenure for agribusiness workers is 14 years.

11. Over two-thirds of production and supply workers preferred outside work while a similar percentage of processing workers expressed a preference for inside work.

12. Sixty-eight percent of all workers preferred decision making rather than routine type work activities.

13. A majority of all workers preferred their present job if they had free choice at the same level of wages and fringe benefits.

14. Agribusiness workers are generally satisfied with their jobs except in the areas of pay and promotion opportunities. Satisfaction with co-workers, supervision, and kind of work done is high. Older workers, workers with less formal education, and workers whose father had been employed in agribusiness tended to have higher job satisfaction.

15. As a group, agribusiness workers held a relatively low image of agribusiness. The processing sector has the lowest image as viewed by workers in production, supply and processing. Workers with higher images also tend to have higher job satisfaction.

PROFILE OF AGRIBUSINESS FIRMS

1. Almost one-half of all firms reported no hired workers. Of the firms with hired workers, over 50 percent of production (farms) had no hired workers, most supply firms had 5 or fewer workers, and most processing firms employed 20 or more workers.

2. Milk was the largest single primary product produced by farms while most frequently supply firms reported farm equipment sales and services. Processing firms reported processing fruit and milk as their two largest primary services.

3. Sixty percent of agribusiness firms had unincorporated family ownership, 21 percent had corporate ownership, 9 percent had incorporated family ownership, and 8 percent were owned in partnership. Production firms were predominately unincorporated and family owned. Over half of supply firms and over three-quarters of processing firms were corporately owned.

4. Agribusiness workers are predominately non-unionized.

5. Agribusiness firms paid a wide range of salaries for the same skill level job. A majority of firms paying low wages for skilled workers were farms.

6. The fringe benefit most frequently provided by firms was paid vacation followed by health insurance, housing, and board.

7. The levels of wage and fringe benefits paid by firms were most often set by labor laws followed by competition and job evaluation.

RECRUITMENT PROBLEMS AND PRACTICES

1. Only 9 percent of agribusiness firms with employees had organized recruitment programs, but about half of the corporate-owned firms had personnel offices.

2. Production and supply firms continue to have a preference for recruiting workers with farm backgrounds while processing firms express a much lower preference.

3. Newspaper advertising, through present employees, and employment services respectively were the three methods most widely used by agribusiness firms in recruiting workers.

4. Personal interviews followed by reference and credit checks were the most widely used methods for selecting workers.

5. Competition for help was reported as the greatest recruitment problem at all skill levels. Low salary or wage levels, long hours, and hard work were the next most important problems. Recruitment problems tended to increase with the size of firm and the skill level of workers being recruited.

WORKER MOBILITY

1. The agribusiness labor force exhibits low mobility and most moves are from one job to another in the same area of industry or between supply and production firms.

2. Most workers who had had previous jobs had them in agribusiness.

3. Movement into processing jobs, and within the same type of agribusiness firm, resulted in the greatest pay increases.

4. Many supply and production workers change employment between these two areas of agribusiness with little, if any increase in pay. Little exchange of workers takes place between the processing area and the supply and production areas, and vice versa.

MANPOWER PROJECTIONS

1. The 1972 manpower projections for agribusiness workers estimated an increased need of 25 percent for production workers, 113 percent increase for supply workers and a 105 percent increase for processing workers.

2. The greatest number of new job opportunities in production and supply will be at the skilled level. In processing, unskilled level jobs represent the largest number of new positions, but this forcasted increase could easily be drastically reduced through mechanization.

CONCLUSIONS AND RECOMMENDATIONS

1. The descriptive data about agribusiness firms and workers from this study should be used by vocational counselors to present a realistic picture of agribusiness to prospective workers.

2. The high (over 41 years) median age of agribusiness workers and the projected increased need for skilled workers indicates that retirement and the creation of new positions should increase employment opportunities in agribusiness.

3. The lack of organized recruitment programs in agribusiness indicates that agricultural graduates will need to be well prepared in job search skills in order to locate agribusiness employment opportunities. Close cooperation between educators, agribusiness employers, and government employees responsible for employment services will

(Continued on page 243)

MECHANICS COMPETENCIES NEEDED IN ORNAMENTAL HORTICULTURE OCCUPATIONS


Lee P. Grant

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Harry J. Hoerner
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Harry J. Hoerner

Are your ornamental horticulture graduates prepared to do their best with mechanically oriented problems in their new jobs? Are you offering instruction in the mechanics competencies that prospective employers' businesses demand? Have you sought assistance of horticultural employers in planning the horticultural mechanics course of study?

According to 53 randomly sampled horticultural employers in the twelve town area served by the Trumbull (Connecticut) Regional Agricultural Center, mechanics competencies viewed as needed by prospective employees vary with the specific business type involved. Employers interviewed were involved in seven horticultural occupational areas: garden centers, golf courses, greenhouses, landscape and nurseries, lawn maintenance, park service, and tree service.

Employers interviewed were asked to consider sixteen groups of mechanics competencies and to eliminate those not important for his employees. They were asked to place priorities on the areas checked as important and to rate the groups from most important to least important. The sixteen groups were: equipment operation, spraying and spreading equipment, tree tools, grass care equipment, air compressors and pneumatic powered tools, steam generators and boilers, irrigation equipment and sprinkling systems, mechanically operated environmental controls, equipment repair and maintenance, small engines, hydraulic systems and controls, plumbing, electricity, construction, tool fitting and repairing, and arc and gas welding.

Using a frequency count and the Sign Test, data gathered from employers' responses were grouped and placed on priority levels ranging from one (most important) to five (not important) within each of the seven occupational areas, as well as across the total occupational field or ornamental horticulture.

According to the results of the study, employers in all seven occupational areas indicated that competencies in the spraying and spreading equipment, and equipment operation competency groups were of high priority or importance to their employees. Although these two competency groups were universally important, at least one group — air compressors and pneumatic powered tools — was universally of little or no importance to the employers in all occupational areas. Competency groups of steam generators and boiler systems, and mechanically operated environmental controls groups were considered of little or no importance in all but one occupational area, that being the greenhouse oriented businesses. Arc and gas welding was considered moderately important by the employers in only the golf course occupational area, but considered of no importance by greenhouse people and of lower level importance by the employers in the remaining five occupational areas.

Furthermore, the data showed the small engine competency group was considered of moderate importance by all employers except those in the garden centers. All prospective lawn maintenance and park service employers considered grass care tool competencies to be of high priority for their employees.

In the revision of general ornamental horticulture courses of study, teachers and specialists might consider instruction in competency groups as important for all groups except (1) air compressors and pneumatic powered equipment, (2) steam generators and boiler systems, and (3) arc and gas welding. Likewise, researchers would highly recommend instruction in certain occupational groups, these being: (1) equipment operation, (2) spraying and spreading equipment, (3) grass care equipment, (4) irrigation and sprinkling systems, and (5) small engines. However, the individual mechanics units supportive to ornamental horticulture courses of study should be based upon the occupational objectives of the students.

Teachers of specialized ornamental horticultural programs should be aware that not all competency groups are needed in all occupational areas and that the employers' ideas of needs vary with the types of businesses they have and the services that they are offering their customers. Employers interviewed in this study demonstrated a high degree of cooperation. They indicated to the researchers that they desired to be consulted and to offer assistance to teachers, administrators, and specialists as new programs are formulated and as on-going programs are re-evaluated. ◆ ◆ ◆

TRAINING PLANS FOR COOPERATIVE EDUCATION

Martin B. McMillion
Teacher Education
University of Minnesota


Martin B. McMillion

The subject of training plans is very appropriate at a curriculum workshop because the term "training plan" like "course of study" denotes *what* shall be taught and learned. The course of study denotes what is taught in the classroom to the entire group. The term "training plan" denotes a more individualized subject matter which is planned to prepare a person for a more specific task or job.

Before 1963, agricultural education terminology did not include the word training plan, training agreement, training guide, training profile, job analysis and other terms used in cooperative education. A training plan is primarily a list of activities which a student must perform on the job — a learning by doing list. In distributive education, it is common to include in the training plan what the student needs to know, do, and feel — knowledge, skills, and attitudes. The D. E. training plan would include what is to be learned *in* school as well as *out* of school.

Learning only the knowledge, skills, and attitudes specifically needed for a job has the advantage of maintaining motivation, but it has the disadvantage of a very narrow preparation. I think the very nature of distributive education has caused those engaged in it to take the approach of individual work in the classroom in the area of technical information (product knowledge). The student who sold clothing studied about clothing; the student who sold hardware studied about hardware in the classroom, and so forth.

In agriculture there are many common principles and much common technology running throughout the several clusters of occupations. I feel this fact is adequate reason for much of the knowledge and attitudes being classified as "course of study" in agriculture which in the case of D. E. would be a part of the training plan. Ideally, one would go through the process of analyzing the knowledge, skills and attitudes needed and use group instruction (course of study) if enough individuals needed the same preparation. Much is available in the literature to help us determine if there is a commonality of knowledge and skills needed in the various agricultural occupations.

My emphasis on training plans has been on the activities to be performed on the job. The classroom activities are important but I have concentrated my effort on activities performed at the training station. Actually, if the student can perform on the job he has the requisite knowledge and perhaps attitude.

The training supervisor must know what the student is learning in the class to properly supervise him. The complete training plan is useful in providing this information. The student's study guide or the course of study is also useful to the training supevisor.

Concerns about narrow content. It bothers me that what takes place in *one* business in *one* town could set the limits on what a student learns in agriculture just as it bothered me when I was told that the course of study should be based upon the farming program. A limited farming program could mean a limited course of study and a training station with limitations could mean a limited training plan. Even worse, a shortage of training stations corresponding to the student's occupational choice could result in the *wrong* training plan. Also, we must guard against a training program which is too narrow and one which provides learning by doing *only* in a situation where the student can be earning while learning. To earn and learn at the same time is desirable. To give up learning because simultaneous earning is not possible is undesirable.

Just as we had supplementary farm practices and improvement projects to broaden and enrich the experience of students having farming programs in the past we need ways to broaden and enrich the placement-employment experience programs.

Perhaps it is overidealistic, but I think it is reasonable to determine what is needed to succeed in an occupation or job, then proceed to "fill the bill" through (1) observation in another business without pay, (2) observing and assisting a professional without pay, (3) simulated work experience, (4) self-employment, (5) independent study, (6) group instruction, (7) informal interviews, *and* (8) placement-employment.

Procedure for developing training plans. The teacher and the student first need to do some investigating to learn what competencies are needed. This can be accomplished by studying the available materials or by studying a business. Job analysis and surveys of employers, supervisors, and perhaps workers are ways to discover the competencies needed.

The teacher should make a study of competencies needed well in advance of the development of the training plan with the employer especially if the study is made in the same business in which the student is to be placed. If the study and the making of the training plan are combined or very close in time, the situation is that of an uninformed teacher trying to participate in the making of a training plan with little if any contribution to make. The teacher must have already done his homework and data gathering in advance.

The student is expected to get involved in preparing the preliminary training plan because I believe in learning by doing and the student can very profitably spend some time deciding

(Concluded on next page)

(McMillion, from page 227)

what should be included in his training plan.

Suggested lists of activities for training plans are available for dozens of occupations and the student could use these lists as a starting point. The student could further benefit by attempting to place the activities in seasonal sequence and order of difficulty.

The difficulty of getting the student, the teacher and the training station supervisor together at one time usually dictates that only the teacher and the training station representative meet and agree upon the tentative activities to be performed on the job. I would hope that the student could be present at several of the subsequent sessions for revision, review and updating of the tentative plan.

I have developed a format for a training plan which I think has some desirable features. For each activity to be performed on the job, the student can set a level of performance to be attained, assess his level of performance prior to the training, and evaluate his performance at the end of the training period. Setting goals and making beginning and ending self-evaluations are the essentials of the learning process and should be incorporated into the training plan.

Even though I believe that what we put in the hours is more important than how many hours we put in, space has been provided for allocating the hours to be devoted to each item on the training plan. Space is provided also for keeping a tally of actual time spent observing and performing each of the activities.

Do not use the ending self-evaluation for grading purposes because we want the student to be honest with himself.

The level of performance selected by the student should reflect his occupational objective. The student who plans to be a mechanic immediately after high school would seek a higher performance level on the engine overhaul activities than the student who intended to continue at a postsecondary institution to become a machinery salesman.

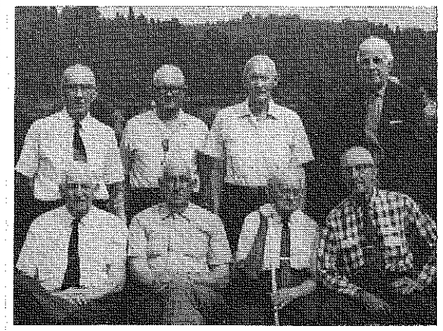
In placement-employment programs the training plan as broadly defined is the most important non-human element. The program is learner oriented first and then it is training plan oriented. We are in the business of education and we must have a plan. The plan is commonly called a "training plan." It could be called education plan, exploration plan or other names. Whatever we call it, the subject we have just covered deserves our thoughtful attention. ◆◆◆

Copies of the format for a training plan are available from the author.

This article is from a presentation given by Dr. McMillion at the Agribusiness Curriculum Workshop at the University of Illinois in July, 1971.

Fiftieth Anniversary Conference In West Virginia

W. H. Wayman
Past State Supervisor
Vocational Agriculture



Eight former teachers of vocational agriculture who had taught in 1921 and attended the 1971 Conference were, seated L to R: Dr. J. G. Umstattd, Austin, Texas; James C. Cox, South Charleston; Fred A. Bradley, Elkins; and H. D. Rohr, Weston. Standing L to R: J. S. Bobbitt, Princeton; Shirley L. Starkey, Yucaipa, California; John M. Lowe, Charleston; and Dr. H. B. Allen, Charles Town. A. G. Springer, Keyser and George B. McIntire, Cheverly, Maryland, also attended the first conference and were present for the 1971 Conference but were absent when the picture was taken.

Sixty-eight former teachers of vocational agriculture in West Virginia attended the 50th anniversary conference held at Cedar Lakes, June 21-23, 1971. Eight of the 15 living teachers who attended the first conference held at Mt. Lake Park, Maryland, (adjoining county to West Virginia and a famous summer resort at that time) in 1921 were present. Twenty-six from 14 states and the District of Columbia were in attendance.

A History of Vocational Agriculture in West Virginia 1917-71, prepared by W. H. Wayman, former state supervisor, was presented to all in attendance.

A total of 690 different teachers have taught vocational agriculture in West Virginia since the program was started in 1917 in nine departments. Of this number, 117 are currently employed as a teacher, teacher educator or supervisor in vocational agriculture in West Virginia. Of the 573 former teachers, 134 are deceased, six unknown, five in military service, three in foreign service, 227 living in West Virginia and 198 living in 28 other states or the District of Columbia.

Fifty-six former teachers continued their education and earned a doctorate and at least 278 earned a masters degree.

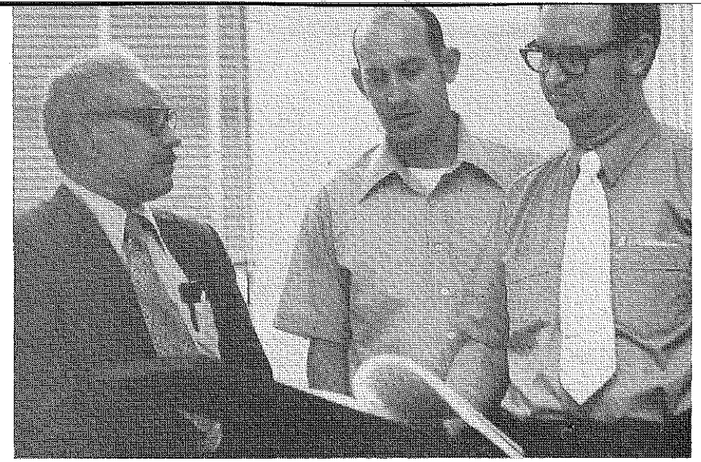
The former teachers have been engaged in numerous occupations including school administration, other high school and college teaching, farming and off-farm agricultural occupations plus many miscellaneous positions.

FFA UP-DATE SEMINARS

On March 6-10, 1972, key agricultural educators, state supervisors and FFA officers will meet in Washington to plan a series of 24 state and regional meetings, to be held later in the summer. Each teacher of vocational agriculture, State Staff member, and FFA chapter president will be involved in at least one of the 24 sectional meetings.

The major thrust will be to modernize the FFA so it will reflect the transitions taking place in instructional programs in Agribusiness, Agriculture, and Natural Resources.

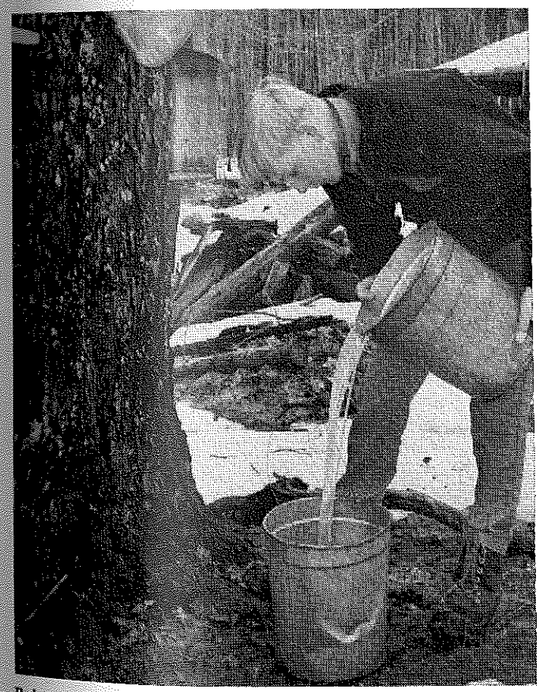
Teachers take part in a summer inservice workshop held at the Wenatchee High School under the direction of Washington State University. The course focused on the operation and maintenance of tractor power trains. D. J. Campbell, service manager for Ford Tractor and Company, assisted George Roberts, vocational teacher at Wenatchee, in conducting the workshop. (Photo by Art Nelson, Program Supervisor, Agricultural Education, Olympia, Washington)



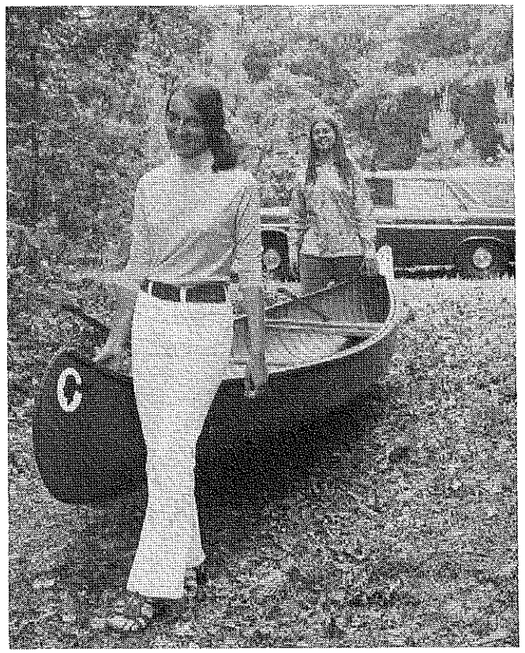
E. M. Harrison, left, and Joe Wells, center, Vocational Agriculture teachers at St. Francisville High school, discuss with J. C. Simmons, Area Supervisor, State Department of Education, a new subject matter publication on Off-farm training. This publication is the eighth in a series which was prepared by teachers in cooperation with the Louisiana State University Vocational Agriculture Education Department and the State Department of Education. (Photo by William R. Walker, Jr., Assistant Supervisor of Agricultural Education, Louisiana State Department of Education)

Stories in Pictures

ROBERT W. WALKER
University of Illinois



Robert Hibbard, a former State Star Greenhand and State Farmer, gathers maple sap by hand from trees near the Colebrook FFA Chapter's sugar house. (Photo by Dick Moore, News and Sentinel, Inc., New Hampshire).



Co-eds enjoy the practical aspects of the outdoor recreation program as evidenced during a spring canoeing trip held in conjunction with the outdoor recreation program at Chariho Regional High School, Wood River Junction, Rhode Island. (Photo Supplied by Donald E. McCreight, Teacher Education, University of Rhode Island).

H. O. SAMPSON

— A Pioneer in Agricultural Education

H. O. Sampson

One could readily ask himself before attempting an article of this kind whether thirty years of intimate contact with a man is sufficient to say you knew him, or whether thirty years of familiarity with his actions and mental processes might obscure the brilliance of his achievements and wind up in a tedious rehearsal of the common place.

To put your own yardstick along the stretch of memory of a man you greatly admired, kicking off in a kind of lineal moralizing how much you approved and how much you found less than worthy is not an easy task particularly when that person was teaching vocational agriculture before you were even born. In historical terms incongruities inherent in the nature of "the pioneers" are naturally heightened by social order and legislative change. By reverently qualifying the triumphs and the failures we may get both a richer appreciation and a clearer understanding of the *reality* that concerned the subjects of these articles.

Sketchy and inadequate as this account must be I can only hope that it is honestly consistent with his attributes, roughly systematic, generally incisive, somewhat pertinent, sufficiently interesting to be read, but above all, coinciding with the recollection of readers who also knew the subject of this brief discourse.

Harry Oscar Sampson, State Supervisor of Vocational Agriculture in New Jersey from 1918 until his retirement in 1950 was born in Dodgeville, Wisconsin, April 21, 1879, and died July 1, 1958. He grew up on a farm near Mason City, Iowa, completed high school and enrolled at Iowa State College, receiving a B.S. degree in 1903 and a Bachelor of Science degree in Agriculture in 1904.

There is some controversy to his claim that the Waterford Agriculture Department was a first in the USA and that he was the first high school agriculture teacher. Nevertheless, it is a fact that he did teach "a course in farming" in the high school at Waterford, Pennsylvania from 1904 to 1906 with some degree of success, and that an article written by a Mr. Dick Crosby, Assistant in Agricultural Education to Dr. True's Office of Experimentation, USDA, was published in the *USDA Yearbook;* "as far as I know the only published report up to this time about this early experiment in high school agriculture" (editors note: Actual quotation from H. O. Sampson memo to Dr. Rufus Stimson). He recognized, of course, that there were special agricultural schools established earlier; as for example, Dunn County School of Agriculture in Wisconsin with K. C. Davis as principal.

Whether or not he was "first", it is significant that he was aware of the fact that "agriculture cannot be taught from books and that the out-of-doors phase needs to accompany the instruction", trite as that statement may sound sixty-five years later.

There is more positiveness to his later endeavors in the field of agricultural education. Following Waterford, he was hired by the Office of Experimentation "to promote agriculture education in high and grade schools". During the summers, they sent him to Teacher Institutes in several states — "The idea was to show the untrained country schoolteachers that agricultural instruction need not be solely from books." From September to June (1907-08) he was delegated to establish an agricultural high school in an abandoned Friends School at Calvert, Maryland. Here, as at Waterford, "I secured a few books and bulletins and did a lot of agricultural demonstration work and also got the children out to the farms on field trips, judging contests, etc."

"Not content to slip into the grooves and ruts of governmental sufficiency and bureaucracy" he accepted a position as principal of agriculture at the International Correspondence schools, Scranton, Pennsylvania, where he had charge of the preparation of their correspondence courses in agriculture and wrote agricultural texts for worldwide distribution. In all some seven thousand pages of printed material were published.

In 1915 he became Professor of Agriculture at the Winthrop Normal College, Rockhill, South Carolina; a girls school where his efforts were directed "to give the students ideas, facts, and methods that they could use in teaching general agriculture when they became teachers." Here he also found a bride, the lovely and charming Harriet Louise Nairn who bore him two children.

In August, 1918, he came to New Jersey as State Supervisor and Teacher Trainer and with great foresight, in my judgment, established his headquarters at the College of Agriculture instead of the State Department of Instruction Offices in Trenton, the State capitol, and steadfastly maintained this base until his retirement. His letter of application to Rutgers, a copy of which is a prized possession, indicates that this was the position he wanted and filled so admirably until his retirement on his 71st birthday (mandatory retirement at 70 not withstanding).

William H. Evans

William H. Evans is Professor Emeritus, Rutgers University, and has prepared an insightful article.

It is possible to construct a biography in the form of a historical document burdened with footnotes, loaded with attributable quotes, and bound with a twine of chronology. This is not that kind of an effort.

Every one who was privileged to come into contact with H. O. Sampson or "Sammy" as he was affectionately known to everyone, would agree he was a modest, humble, soft spoken, handsome, gracious gentleman. He was a peacemaker, a compromiser, a cooperator, especially adept at building good public relations. He preferred to use diplomacy and tact and the "soft sell" to accomplish his goals. It would be a grievous error, however, to regard him as a milktoast. He was capable of using the power he had at his command, (federal funds and his undisputed reputation for integrity and square dealing) patiently and wisely with forethought. He shunned the speakers podium but was an articulate conversationlist. At social gatherings he was inordinately proud of his Manhattans.

He was at his best working behind the scenes. At large meetings, regional conferences, etc., he could usually be found sitting with two or three others deciding essential policy. He had voluminous correspondence and close personal relationships with the reputed giants of the day; Stimson, Getman, Dennis, Fetterolf, et al; all of whom he admired (and likely subjects included in this series). His small stature notwithstanding, I can think of no one who intimidated him, be he the State Commissioner, Director of Vocational Education, Dean, Chief of the Bureau, or Regional agent.

He did not impress me as being a philosopher, a theorist, or an innovator although it is worthy of note to record that he organized a Young Farmers Association in 1924, later to be affiliated with National FFA (Charter No. 3) and established programs in ornamental horticulture and farm training for city youth in the early twenties. It must be remembered in this connection that he adamantly defended these programs neither of which currently met the approval of the North Atlantic Regional Representative of the U.S. Office of Education, who contended that ornamental horticulture and directed practice were not *farming,* and, therefore, not in accord with the Smith-Hughes Act. Ironically, it was not until the 1962 AVA convention in Philadelphia that the Camden County Vocational School's program in floriculture and landscaping received the acclaim it so richly deserved and later to be emulated in many other states.

With his teaching staff he was quick to praise and slow to criticize. He instituted a system of Weekly Reports from all Vocational Agricultural teachers which, incidently, he read before they were filed, and any teacher reporting an achievement worthy of note was likely to receive a letter of commendation that same day. The ability to inspire confidence in all of his employees was to me one of his outstanding attributes.

I would confess to have some slight doubt as to whether he was a dynamic, forceful teacher, but when he wrote few could match his facility to express ideas in simple, unqualified prose. High school students did not need a dictionary to understand his textbooks *Effective Farming* and *Farm Shop,* both of which were widely adopted in the early days.

One of his unique achievements was to be unusually efficient in assessing the requirements and in securing "the right man" for the specific teaching situation. He was not averse to raiding other services or stealing good men from out-of-state, but quick to get a "memorandum of understanding" with the Extension Service and other agencies looking enviously at the competent teaching staff he had accumulated. It should also be stated that having secured "the right man for the situation" he exerted every effort within his power to keep him happy, attesting in part to the very good tenure record that characterized the Vocational Agricultural teaching staff in New Jersey during the period of the twenties, thirties, and forties. Some might be so unkind as to say that he did not do enough switching around of personnel who might have benefitted from a new challenge, but I find this conclusion alien to his basic character. He very seldom fired an incompetent teacher, preferring to encourage those who performed well and conversely allowing the less fortunate to work out of the hole they have gotten themselves into.

He strongly believed that a Vocational Agricultural teacher should make a distinct contribution to the economic proficiency of agriculture in his community and utilized the total labor income from productive enterprise project reports as a criterion. In his judgment this annual figure should exceed the teacher's salary.

At the state level he surrounded himself with capable assistants able to do the jobs he wanted done. Having no liking whatsoever for research or for keeping records, it is worthy of note that his first appointment to state staff (Assistant in Teacher Training, 1920 and later Head Teacher Trainer until 1947) was Professor E. V. Bearer who doted on research and statistics of all kinds, many going far beyond the ordinarily prescribed statistical records expected to be kept by a State Supervisor of Vocational Agriculture. Similarly when he was interested in promoting farm mechanics he brought O. E. Kiser into the picture to instigate in-service and pre-service teaching programs in this area of instruction, and G. W. Lange to develop adequate facilities in departments throughout the state.

Teacher education. He was always particularly aware of the problems of keeping agricultural teachers up-to-date and utilized several unusual methods and administrative procedures to accomplish the upgrading of teachers. From the very beginning the State Plan called for a two-week summer conference of Vo-Ag teachers with attendance mandatory and at Board of Education expense (reimbursable). Except for a one-half day and evening session devoted to the Vo-Ag Teacher Association Business Meeting and social activity these summer conferences were devoted to teacher training. In the early days it took the form of a so-called conference-on-wheels — planned tours to farms, cooperatives, markets, etc. to study the agriculture of the State. Later under the catch-all catalog title "Recent Developments in the field of ( )," the entire personnel of one of the departments for example, Agricultural Economics at the College of Agriculture, would be utilized to bring all of the latest research findings in that area of instruction to the attention of the teachers of Vocational Agriculture. Graduate credits were al-

(Concluded on page 243)

RESEARCH IN AGRICULTURAL EDUCATION
— Studies Completed in 1969-70

James T. Horner
University of Nebraska

James T. Horner

The 234 research studies completed in 1970 (73 more than reported the previous year) provide evidence that agricultural educators are striving to meet the challenge of change through the investigation of significant problems. Intelligent application of pertinent research is one of the most important ways to bring about improvements in agricultural education.

Abstracts of studies were compiled by the Research Committee of the Agricultural Education Division of American Vocational Association. A limited number of copies of the studies reported in 1969-70 may be obtained from: C. M. Curtis, Louisiana State University, Southern Region; J. T. Horner, University of Nebraska, Central Region; E. M. Juergenson, University of California, Pacific Region; and Philip Edgecomb, Rutgers, New Jersey, North Atlantic Region.

The abstracts briefly state the purpose, method and findings and include information on where to obtain the thesis or published report. Doctoral theses may be purchased on microfilm; master's theses are available through inter-library loan; and staff study reports may be requested from the respective institutions.

In classifying the titles reported in 1969-70, thirteen major categories were utilized. The largest number of studies dealt with guidance and counseling, curriculum, manpower needs and employment opportunities, learning-teaching methods and student follow-up and evaluation. A number of studies dealing with adult education and teacher education were reported. Other areas receiving considerable attention included administration and supervision, cooperative extension and programs for high school students and others such as safety mechanics and occupational experience programs.

Sixty per cent of the studies reported were master's degree theses, papers, practicums or problems; 28 per cent were doctoral dissertations; the remaining 12 per cent were staff studies.

This compilation of titles of research in agricultural education completed in 1969-70 is a project of the Research Committee of the Agricultural Education Division, American Vocational Association. James T. Horner, Professor and Chairman of Agricultural Education at the University of Nebraska, is Chairman of the Research Committee. Agricultural Education *will publish titles of Studies Completed in 1970-71 in an issue later this year.*

ADMINISTRATION AND SUPERVISION

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BICE, Garry Robert, The Relationship of Group Structural Properties and Communication Behavior Patterns to Opinion Leadership Among Teachers. Dissertation, Ph.D., 1970. The Ohio State University, Columbus.

BLANTON, Lloyd Houston, Communication Networks and Innovative Potential of a State Division of Vocational Education. Dissertation, Ph.D., 1970. The Ohio State University, Columbus.

COPA, George Hubert. Identifying Educational Systems Inputs Toward Production Function Application in Education. Dissertation, Ph.D., 1970. University of Minnesota, Minneapolis.

CROMER, Chalmers A., Determining Approval Standards for Postsecondary Vocational Technical Programs in Nebraska. Dissertation, Ph.D., 1970. University of Nebraska, Lincoln.

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FENTON, Wendell L. A Study to Determine Why Oklahoma Vocational Agriculture Instructors Changed Their Professions During the 1968-1970 School Years and Their New Occupations. Report, M.S., 1970. Oklahoma State University, Stillwater.

FORD, Robert J., Relation of Summer Program to Total Programs of Vocational Agriculture in Iowa. Thesis, M.S., 1970. Iowa State University, Ames.

GRANTHAM, Alva Arvilia. A Comparison of Opinions Regarding Operational Policies Between Teaching and Between Administrators and Teachers in Multi-teacher Departments of Vocational Agriculture in Oklahoma. Report, M.S., 1970. Oklahoma State University, Stillwater.

HARRISON, William R. An Identification of Factors Influencing Teachers of Vocational Agriculture to Terminate or Continue High School Teaching. Report, M.S., 1970. Oklahoma State University, Stillwater.

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LONG, Gilbert Andrew. Personnel Responsible for Decisions Influencing Vocational Education in Local Schools. Dissertation, Ph.D., 1970. The Ohio State University, Columbus.

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MARRS, Dan Ralph. A Comparison of Single-Teacher and Multiple-Teacher Vocational Agriculture Departments in the Area of Leadership Development. Thesis, M.S., 1970. Kansas State University, Manhattan.

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AGRICULTURAL EDUCATION IN OTHER COUNTRIES

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MAXWELL, Robert H. The Relationship of Social Differentiation to Academic Success in Secondary School and Occupational Patterns in Kenya: The Chavakali Case. Thesis, Ph.D., 1970. Cornell University, Ithaca, New York.

PHILLIPS, James David. The Agricultural Extension Program of West Godavari District, Adhtia Pradesh, India. Master's Report, M.S., 1970. Montanta State University, Bozeman.

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SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION

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Abstracts of studies completed in agricultural education during the years 1965 through 1967 were recently published under the title "Summaries of Studies in Agricultural Education, 1965-1967." The abstracts were compiled by the Research Committee of the Agricultural Education Division of the American Vocational Association and published by the American Association of the Teacher Educators in Agriculture. Copies are available at $4.00 each from Interstate Printers and Publishers, Danville, Illinois.

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DR. MILO PETERSON IN KOREA

Milo M. Peterson, Professor of Agricultural Education, University of Minnesota recently arrived in Korea as "Senior Technical Consultant in Agricultural Education". His mission will be to improve teacher training in vocational agriculture, curriculum, facilities, and related functions.

INCLUDE LEADERSHIP SKILLS — In Job Training

J. C. Atherton
Teacher Education
Louisana State University


J. C. Atherton

The majority of students enrolled in vocational agriculture will make their livelihood from jobs in industry, not farming. Also, many of those engaging in farming and ranching will supplement their incomes with off-farm jobs. Thus, we are impelled to gear all-day instruction to the employment needs of today's youth. Job training is the order of the day.

A "new man" is needed for the "new age" in which we presently find ourselves. Business is looking for the individual who has the most to offer or contribute to contemporary society.

Opportunities for employment as a common laborer or unskilled worker are not great in our total society. Odds of making a satisfactory livelihood without specialized training are not good. Even the skilled employee has difficulty in succeeding if he does not evidence traits of commonality and of leadership.

Failure to prepare oneself and to stay abreast of the situation are serious shortcomings which one should guard against. The cost is an expenditure of time and effort. However, a neglect of these essentials is actually more expensive in the longrun. There is a widespread feeling that computerization and automation will replace brainpower. No doubt they will help to do many tasks more efficiently, but it has not been possible to develop a computer that will think and it is doubtful that one ever will be produced.

To rise above the level of common laborer or the initial entry step in agri-business the individual must evidence leadership and potential for development into a trusted and worthwhile employee. Most individuals have these characteristics to some degree. It is incumbent upon the instructor to project a curriculum which will enhance the development of business leadership. To accomplish this some attention must be given to the end product desired. Most leadership is not the result of accident primarily.

Leaders must command the respect of followers. They must be qualified and trained so that they may capture and hold the interest of the group with which they are operating. Such persons only are in a position to provide the type of guidance needed by the general public.

In order to gain the respect of followers there are some basic principles or traits of leadership one should follow. These include: dependability, enthusiasm, loyalty, consideration for others, honesty, communicativeness, and being up-to-date.

1. Dependability — Always be ready to assume responsibility for those things with which he has an obligation. Be prompt in carrying out assignments and in answering communications. Be on time. Be industrious and exhibit a willingness to work hard and to sacrifice so that the task may be carried through to a successful completion.

2. Enthusiasm — Believe in what one is doing and what he asks others to do. Exhibit optimism even in the face of difficulties. Assist others to visualize the significance of the activities they are asked to participate in. Encourage them. Show that he believes they are worthwhile. Exhibit eagerness to get at the task and to see it through to its completion. Match talk with action. Don't just talk a good game; play it.

3. Loyalty — Set an example of full fledged loyalty to one's superiors, his co-workers and to those who may be under his charge. Support the program and its policies once they have been established. Refrain from harmful criticism or backbiting. Back fully the organization of which one is a member.

4. Consideration for others—Respect the personality and worth of others. Be considerate of their needs and limitations. Make provision for differing views on a subject. Show kindness and appreciation for one's efforts. Give attention to details.

5. Honesty — Be true to oneself and to his associates. Live above reproach in word and deed. Give full measure in time and talent. Fulfill promises and other obligations. Be fair in all dealings. Be industrious.

6. Communicativeness — Present views in terms understood by the group. Involve others in planning and then in the follow-through of activities. Do not hesitate to delegate responsibilities. Utilize the ideas of others.

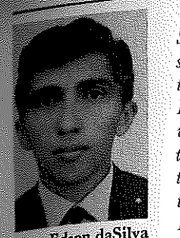
7. Keep Up-to-date — Know what the task involves. Keep growing mentally. Learn as much as is practical about the task. Be well informed before conducting a meeting on problems. Be a student of the field.

The development of these qualities of leadership are not the responsibility solely of the vocational teacher. The entire school faculty should share in this worthwhile endeavor. It is the duty of all educational personnel to encourage student growth and to nurture those qualities which will help the individual become a useful citizen and a valued employee.

All teachers can and should strive to develop leadership potential in each of their class members. Certain subjects lend themselves more to this type of activity, however. It seems that the social sciences and language arts areas are especially susceptible to use for this

(Concluded on page 239)

VOCATIONAL AGRICULTURE IN BRAZIL


Jose Edson daSilva

Jose Edson da Silva, a graduate student in agricultural education at Kansas State University, is a future teacher-educator at the Rural University of Pernambuco, Brazil.

In the years since the "American Point 4" program was established in 1949, a sustained contact with bitter social and economic realities in developing nations has forced a noticeable shift in philosophy of assistance operations. There recognition of the fact that technical assistance to underdeveloped areas implies far more than the training of scientists or the supplying of engineers and equipment. It has been learned, for example, that farm machinery is of little value without roads, skilled operators and available mechanics. And more to the point, it has become evident that technical manpower or even machinery and buildings have intrinsic social and cultural implications.

Most of Brazilian agriculture still is in the age of the traditional hoe. In most of the lesser developed countries land is divided up into many small farms. The reverse is true in Brazil. Only 10 percent of the farms are of less than 50 acres and 62 percent are above 1,250 acres. About 17 percent of Brazilian landowners control 47 percent of the farm land.

The lack of the use of advanced technology and the high rate of illiteracy are the factors limiting the productivity of natural and human resources in agriculture. Thus the agricultural sector does not provide much capital for its own progress let alone for progress in other sectors. Needs in the agricultural sector include education for farmers, increased credit availability at reasonable rates for small farmers, a decrease in the rate of absentee of ownership of cultivated land, and practical basic research in agriculture.

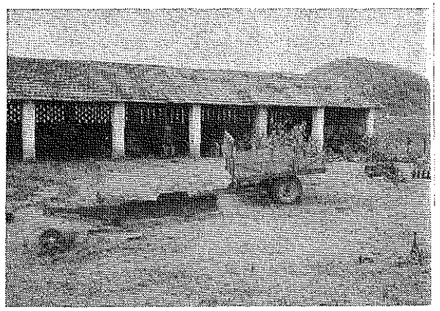
But in spite of some of the problems mentioned above the giant begins to stir. The Brazilian government started 5 years ago, a program which is called vocational agriculture.

Vocational agriculture is about 54 years old in the United States, and has found no counter part in any other country. With advice and technical help from the United States, the Brazilian government is starting to introduce vocational agriculture in high schools and the universities throughout Brazil. Teachers were to be sent to the United States to study and develop vocational skills and then upon their return, they would be placed in a vocational teacher training center. In the center, these well trained professionals will be training teachers in a two year program, to become Vo-Ag teachers at the secondary level. The training program will include basic fundamentals courses in all phases of agriculture, and of course, the training program will be based upon the needs of each community.

This program adds a new dimension to the process of learning, and once this program is off the ground, there will be a rapid change in the Brazilian economy and the social order. There will be more concern for the adequacies of practices of occupational and vocational fields and technical education. Through an outstanding education a lot of people can discover new horizons and develop "self improvement" which is the most satisfying. This educational process may be slower because the education background is based mainly on the European system where there is a difference between the conqueror and the conquered. The feudal society is a good example, full of heredity and tradition.

Brazil has received much foreign aid. Why do they not succeed? The answer is very simple, human resources development. The whole problem resides in the fact that encouragement for education has not been adequate.

Financial assistance granted for education has been largely on a government-to-government basis. Unfortunately, the Brazilian government has been handicapped by lack of funds, lack of continuity and often by basic conflicts with political objectives. Traditionally the economic powers behind the "throne" have feared education for the masses. They have equated *education* with awareness, and awareness with discontent. However the technological revolution in communication and transportation has created awareness without educational opportunity which is doubly dangerous.


Machinery storage at the Agricultural School of Sao Lourenco da Mata. Machinery without the expertise of maintenance and repair is of little value.

Can a very sound vocational program be set up for Brazil? Is there any time for such a program? There is no other solution. Creating educational opportunities brings hope and with hope comes a lessening of frustration and very possibly the additional time required to solve the basic problem of economic growth.

And finally for the school age generation there will be an increasing awareness of the opening doors of opportunity for those students who are qualified by ability and financial need. This will bring, of course, a positive change in attitudes, a lessening of frustration and ultimately the capacity to contribute to accelerating economic growth. ◆◆◆

COMPETENCIES ANALYZED AMONG RATINGS OF 24 JOB NEEDS IN FOOD PROCESSING

Leroy C. Smeltz
Donald E. McCreight
Glenn Z. Stevens

Large food processing plants in Pennsylvania have job specifications for about 20 occupations. A survey of five businesses in each of five major commodities revealed differences but showed far more commonalities among knowledge and skills required for entry employment and for advancement in each job classification.

Table 1 lists all of the job titles used in manufacturing the five kinds of food products. Table 2 shows five groups of competencies for six clusters of job titles in meat processing, as an example of the ratings. The symbol **L** means **low** competency required. **Low** average ratings were scores in the bottom fourth of the distribution. **High** ratings were in the upper fourth.

Data for the 1969 study were furnished by managers responsible for employment interviews in 25 food manufacturing plants in southeastern Pennsylvania. In the five dairy products businesses, about 1800 persons were employed. The meat processing plants had 1600 employees, poultry and eggs 1500, fruits and vegetables 3100, and the cereal grain and flour mills 300 employees.

The principal statistical procedure was factor analysis of ratings among uniformly similar lists of 24 types of job competencies. The managers filled out a data schedule for each job title used in their plants. The competencies were computer analyzed by each type of food product and for all products. Separate summaries were made for the *To Enter* and *To Advance* levels of employment. The same procedures were used to cluster the occupational titles.

Competency groups determined — There were five meaningful competency groups in each of the five commodity areas. Knowledge and skills common to all five types of food products were: (1) management and supervision, (2) quality control, (3) sales and office skills, (4) mechanics, and (5) processing skills. The competency factor groups in poultry and egg processing plants included an additional factor for distribution. In fruit and vegetable processing plants, a raw product procurement factor appeared. In cereal grain and flour processing plants, procurement and storage and distribution were combined in one competency group.

TABLE 1
Number of Food Processing Plants Using Each Job Title, Among Five Food Types, Pennsylvania Analysis, 1969.

Job title	*Meat*	*Dairy*	*Poultry and egg*	*Fruit and vegetable*	*Grain and flour*
General manager	5	5	5	5	5
Personnel manager	3	2	1	3	1
Production manager	3	4	4	5	4
Sales manager	5	4	5	4	1
Office manager	5	5	5	4	4
Buyer	3		4	2	3
Bookkeeper	5	5	4	4	
Secretary					3
Supplies purchaser	2				
Procurement manager				1	
Production supervisor	5	5	5	4	4
Department (head) supervisor	1		1		
Labeling supervisor				1	
Warehouse supervisor				2	
Quality control technician	2	4	1		
Fieldman		4		3	
Industrial engineer	2				
Quality assurance supervisor				1	
Inspector	2		4	3	2
Grader	2		4		
Cereal chemist					2
Speed analyst					1
Laboratory technician		5			1
Salesman	4	3	2	1	1
Sales supervisor		1			
Route salesman		2			
Processor	3	5	1	3	3
Worker	5	5	4	5	4
Rendering plant operator			1		
Blender operator					1
Miller					3
Maintenance mechanic	5	5	5	5	2
Maintenance engineer			1		
Plant engineer	2				
Operating engineer	1				
Electrical maintenance mechanic			1		
Auto mechanic		1			
Truck driver	5	4	5	5	2
Truck dispatcher			1		

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Glenn Z. Stevens

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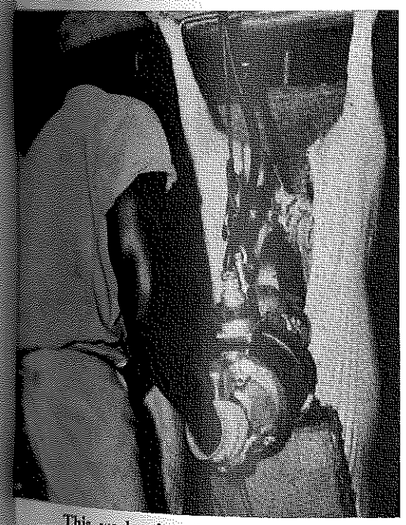
TABLE 2
Example of Ratings of Competencies Needed by Occupational Title Groups At The To Enter and To Advance Levels For 21 Occupational Titles in Five Meat Processing Plants, 1969.

Competency Factor Group	Competency Ratings by Occupational Title Groups											
	Worker		Mechanic		Office Worker and Salesman		Quality Control Technician		Production Supervisor		Manager	
	Enter	Advance	Enter	Advance	Enter	Advance	Enter	Advance	Enter	Advance	Enter	Advance
	(L means low, M means medium, and H means high)											
Management and supervision	L	M	L	M	L	M	L	M	M	H	M	H
Quality control	L	M	L	M	M	M	H	H	M	H	M	H
Sales and business skills	L	M	L	M	M	H	M	H	M	H	M	H
Mechanics	L	L	H	H	L	M	L	M	L	M	M	M
Processing skills	M	H	M	M	L	M	M	H	M	H	M	M

Advancement ratings highest — Ratings of competencies needed by occupational title clusters were significantly higher in general at the **To Advance** level than at the **To Enter** level for three types of food products. This was true in 77 percent of the knowledge and skill groups in meat and dairy processing plants and in 68 percent of the groups involving poultry and egg processing plants. Forty-seven percent of the **To Advance** levels of competency were higher than **To Enter** in fruit and vegetable processing plants, while only 27 percent were higher for advancement in cereal grain and flour processing plants.



This worker is splitting a hog carcass with a power saw after the internal organs have been removed.

The data indicated that managers place little emphasis on experience background when considering prospective employees. In 19 of the 24 knowledge and skill groups, the managers indicated no preference in experience background for entry employment in the five commodity areas.

A four-year college education was most desirable for the managerial occupational titles, quality control technicians, and plant engineers. For office manager, bookkeeper, inspector, maintenance mechanic, and quality control technician, a two-year post-high school technical education was desirable. A high school education was desirable for the occupational titles of salesman, worker, processor, truck driver, buyer, mechanic, and production supervisor.

Study will aid planning — This study will be useful in planning and establishing introductory courses for students in comprehensive high schools and area vocational-technical schools. The added competency needed by employees to advance in their positions points to the need for continuing adult education in post-secondary schools, including community colleges.

The commonalities in clusters of job titles will be helpful to personnel managers in food products manufacturing. It is valuable to guidance counselors and to the employment service in businesses that process and market food products. ◆◆◆

Women perform many jobs in meat processing plants. In this step, bacon is sliced, weighed, and wrapped.

(Atherton—from page 236)

purpose. The entracurricular activities associated with classwork are potentially a good source of opportunities for pupil development. In some instances a cooperative project may be conducted in which several subject areas are involved. For example, it seems conceivable that teachers of agriculture, english, social science and speech may all be concerned with the development of student abilities in areas of oration, chairmanship of groups and intelligent active participation as a member of a group. Concerted effort by all of these departments should produce greater fruits than the fragmented piece-meal work as separate and unrelated entities.

As teachers, we must realize that leaders are developed and that without appropriate training much potential may be lost. In addition to developing technical skills, the social aspects of employment must be fully explored. It is true that agribusiness wants employees who are skilled in their specialty, but they also prefer that these same individuals be able to work well with others in the company and in the community. "People problems" is one of the areas of greatest concern to the employer. ◆◆◆

COMMUNITY LEADERS CAN BRIDGE THE GAP

William R. Dinwiddie
Vocational Agriculture Teacher
Mt. Pleasant High School
Mt. Pleasant, Tennessee

Wm. R. Dinwiddie

Many beginning vocational agriculture teachers are faced with problems of how to organize and conduct adult classes. Because of age differences they are often reluctant to start adult classes. These age differences could cause failure or loss of respect. They may also be undecided as to how to teach adults and how to determine what subjects to teach. They may even wonder whether or not to have an adult class.

The uncertainty of starting an adult program will not be an issue when one considers the advantages of an adult program. It provides support for the high school program, and provides information and advice on issues pertaining to the total program. Above all else, it is one of the most rewarding experiences of the teacher's program.

Mt. Pleasant is located in the Central Basin of Middle Tennessee. It has a population of approximately 2,500 people most of whom live in rural areas. The vocational agriculture department of Mt. Pleasant High School has a student enrollment of sixty students. The department has conducted adult classes for a number of years and the program was continued last year because the people of the community expressed a desire for it.

Planning Committee

The first step in organizing this adult class was to ask six farmers who had attended previous classes to meet at the vocational agriculture department in September. These men formed the planning committee for the adult education program for 1971. They selected the subjects to be studied, planned the class time schedule, and compiled a list of local people who might be interested in attending one or more of the classes. A president and a secretary were selected at this meeting. The following subjects were identified by planning committee:

1. Electrical wiring
2. Plumbing
3. Breeding and feeding dairy cattle
4. Agricultural Stabilization and Conservation Service Programs
5. Corn blight
6. Tractor overhauling

Except for tractor overhauling, each subject area was alotted one class session (one night).

The planning committee agreed that resource people be utilized to teach these classes and help secure the services of the needed specialists. These included an electrical engineer with the Tennessee Valley Authority for the electrical wiring class; a local plumber for the lesson on plumbing; a specialist from the University of Tennessee Extension Service for breeding and feeding dairy cattle; the local Agricultural Stabilization and Conservation Service office manager concerning new government programs; and a field representative from a hybrid seed corn company on corn blight. A qualified mechanic, who was also a member of the class, agreed to teach the sessions on tractor overhauling. The planning committee and the teacher contacted these people by telephone and asked them to teach the classes. The resource people who taught these classes were effective because most of them had jobs in which their primary task was to train and inform farmers.

Class Attendance

The planning committee scheduled the classes for every Monday evening beginning in January and continuing through March. They made a list of local farmers and people in farm-related occupations who would possibly attend the classes. Very often the new agriculture teacher is not familiar with those people, and the organizational meeting involving the planning committee is an excellent means of finding prospective class members. Letters which explained the courses to be taught and gave information as to time and place of the meetings were sent approximately one month before the classes were to begin. A picture of the planning committee was put in the local paper in September as further advertisement for the classes. Announcements were also posted in the local feed and seed cooperative and the manager personally invited his customers to attend the meetings. Finally, the planning committee called their neighbors to encourage them to participate.

After the classes were completed a cookout was held for the members and their families at the vocational agriculture department. Each member received a certificate for completion of the program.

Evaluation

The secretary of the class kept a record of the people who attended the classes. These records were very useful in deciding which subjects the farmers liked best, as well as providing a good membership basis for future classes. The members were asked to evaluate the program and suggest any changes. Most were very complementary — this could be because they planned the classes themselves. They all felt that the classes had been beneficial, and at the last meeting they indicated that they would like to continue the adult education program.

Several farmers have already suggested that they would like to study farm mechanics next year. Survey sheets, asking for other suggestions, will be sent to the members of last year's class. If they select small engines, the vocational agriculture teacher will attempt to teach the classes because he has gained the confidence he needs by letting the "community leaders bridge the gap."

This writer's first adult class program has given him more satisfaction than any other experience during his first year of teaching. It has also helped the high school agriculture program. For example, after the classes were held, one of the adult members pledged to provide a one-hundred dollar scholarship each year to a vocational agriculture boy who plans to attend college. Such actions have made the worry and time involved in planning the adult program worthwhile. ◆◆◆

HELPING THE ACADEMICALLY DISADVANTAGED SUCCEED

Robert W. Walker
Division of Agricultural Education
University of Illinois
Urbana

Robert W. Walker

Students who have not learned have not been taught. Teachers teach only when students learn. This sobering fact must be accepted by teachers who wish to help academically disadvantaged students. The students are underachievers because they were not taught to be sufficiently competent in using the basic scholastic skills — reading, speaking, writing and mathematics.

What happens to academically disadvantaged students when educators fail to design educational programs that will facilitate learning? They perform poorly, because they lack competency in using the basic scholastic skills. Achievement falls below expectation and they fail to meet the academic standards set by the school. Failure follows after failure and the students develop hostile attitudes toward the school, their teachers and traditional educational programs. These students become potential dropouts. They "turn off."

Need for Programs to Remedy the Situation. The practice of directing academically disadvantaged students into *established* occupationally oriented courses must stop. These courses emphasize the development of occupational knowledges and skills and are not designed to deal with the special needs of students. Ongoing vocational and technical courses do little for the students who are academically disadvantaged. In fact, a conflict in instructional objectives develops as the instructor attempts to meet the occupational needs of well-prepared students and at the same time "turn on" and teach basic scholastic skills. Again, as in the past, disadvantaged students suffer and see little hope for rescue from their dilemma.

A Prevocational Agricultural Program. A program to meet the needs of academically disadvantaged students and prepare them for vocational education can be planned, implemented and coordinated by an agricultural occupations instructor. A laboratory-centered program located on a small farm or a rural elementary school provides an ideal setting for student-teacher interaction. Interest in applied biology and agriculture is used by the instructor to serve as a *vehicle* to convey selected students into learning activities designed to change their attitude toward their teachers and educational involvement. The way is prepared for the development of basic scholastic skills. Supportive teachers of english and mathematics integrate their instructional activities at the school with activities at the land laboratory.

The procedure for implementing a program is as follows:

1. Inventory interests of the academically disadvantaged students with the use of the Applied Biological and Agribusiness Inventory published by the Interstate Printers and Publishers, Danville, Illinois which determines interest in animals, plants, mechanics and business. Interest serves as the vehicle to motivate the students to become involved in learning activities. Few students will be eliminated from the program because of low interest. Nearly all will possess an interest in one or more of the areas identified with the inventory.

2. Obtain land and facilities for a land laboratory to create an educational environment in which an activity-oriented program can be developed. An adequate laboratory would consist of (a) buildings located at the site to provide for classroom instruction, storage, animal housing, plant growing (greenhouse) and rest rooms, (b) tillable land for garden plots, plant nursery, and demonstration plots, and (c) woodlot or forest land for recreation, wildlife and tree management.

3. Develop a curriculum that is laboratory centered and activity oriented. Students are easily motivated to become involved in learning activities at the land laboratory. The suggested course content for applied biology and agriculture consists of six major units, as follows: (a) Animals, (b) Plants and Soil, (c) Forest, Wildlife and Recreation, (d) Basic Mechanics and Construction, (e) Leadership and Human Relations, and (f) Supervised Experience Programs.

4. Develop a permissive atmosphere at the land laboratory and give students the freedom to choose alternative modes of conduct and behavior. At first, expect choices to be self-centered, selfish, and violate the rights of others. Gradually, however, help the students to choose behavioral alternatives narrowed to those that are more acceptable to the instructor, fellow students and society.

5. Integrate basic learning activities conducted at the land laboratory with basic mechanics, communications and mathematics taught at the high school. Relate instructional content in these subjects to the instructional activities taught at the land laboratory. The communications instructor should give emphasis to (a) speaking or discussion, (b) reading, and (c) writing. The mathematics instructor should be concerned with (a) basic arithmetic, and (b) solving problems.

6. Maintain communications among instructors from day to day. In addition, conduct a weekly conference to plan ahead for instruction and compare notes on the progress made by individual students.

7. Help the students to start an individual project. Get to know the students' parents and solicit their support. Visit the students frequently.

8. Don't develop a "special" program for disadvantaged students identified as such for all people to know. Instead, design a program like other courses to meet the needs of students enrolled. Attempt to remove the stigma attached to a program for disadvantaged students by working to blend the program into the curriculum offerings of the school.

The first year schedule of classes in applied biology and agriculture for the academically disadvantaged students would be as follows:[1]

1. Mix the disadvantaged students with the first-year students in applied biology and agriculture to study for one period each day in the high school agricultural classroom or shop.

(Continued on page 242)

(Walker, from page 241)

2. Conduct a class with the disadvantaged students at the land laboratory for two or three periods each day.
3. Provide a separate class in communications for one period each day.
4. Provide a separate class in mathematics for one period each day.
5. Integrate disadvantaged students with regular physical education classes.

The second year schedule would be similar to the first. An alternative for communications and mathematics the second year would be to mix the disadvantaged students with lower-ability students.

The students would be returned to the regular school schedule for their junior year.

SUMMARY

Agricultural occupations instructors can identify academically disadvantaged students who would benefit from a laboratory program in applied biology and agriculture, especially when the identified students are known to possess interest in animals, plants and mechanics. Students participating in an educational program focusing on their needs demonstrate that they can achieve and be successful especially when involved in learning activities that they accept, enjoy, and have the assurance that something worthwhile is being accomplished. In a land laboratory setting, each can be praised by his instructor for the tasks he performs and encouraged to continue his activities. A major concern of the instructor is to make it possible for students to develop successful experiences to cope with the years of failure and frustrations encountered in a traditional program which has permitted failure to beget failure until the students feel that no one cares. They key to students' adjustment is enjoyable, purposeful activity that facilitates a sense of accomplishment and achievement and then the momentum generated leads to a desire on their part for involvement in additional activities. Such a program will prepare students to enter and profit from a regular vocational program. ◆◆◆

1. Adapted from "Meeting the Special Needs of Students Through Vocational-Centered Laboratory Learning," Agricultural Education magazine, p. 68, Sept. 1968.

BOOK REVIEWS

FOREST FARMER, March 1971, Manual Edition, Edited by J. Walter Myers, Jr., Forest, Farmers Association, 1375 Peachtree Street, N.E., Atlanta, Georgia, 208 pages, $7.00.

A publication by the Forest Farmers Association. This book provides much good information concerning forests and forestry. Many individuals in the field have prepared articles in their areas of specialization. Some of the topics in this edition are:

Forest farming in the environmental age; basic considerations in establishing a profitable operation; management techniques and methods for both pine and hardwoods; multiple use opportunities in forest management; protection; modern planting methods; harvesting in the age of mechanization; plus how to qualify for timber capital gains; sources of timber loans; latest information on taxes, social security and minimum wage and sources of timber management assistance.

The articles in this publication were prepared by a staff of experts in the field of timber operations. The information is timely and should be of value in forestry programs.

This publication would be of much use to an instructor of forestry or anyone who is teaching some forestry in his program. Some advanced students or adults could make good individual use of this material.

Robert T. Benson
Clemson University

OUR NATIONAL RESOURCES by P. W. McNall and Harry B. Kircher Danville, Illinois. The Interstate Printers and Publishers, 1970, Third Edition, 296pp. $4.95.

The third edition of this book comes at a time when an increased need is being exhibited for courses concerning environmental quality and ecological balance. A chapter on air pollution has been added, chapters have been rewritten, and the entire book has been revised and updated. Thus those teachers who are presently teaching or will be teaching a unit or course on natural resources or ecology should review this book for possible use as a text or reference.

Areas of content include: worth of natural resources, sources of energy, minerals, forests, soils, wildlife, and air. *Our Natural Resources* is relatively easy to read and is organized in a logical sequence.

The book is written primarily from the view point of use and conservation of natural resources. Thus, the teacher searching for a book that primarily treats the current topics of environmental quality, e.g. air and water pollution, its causes and prevention, may be disappointed with this book as a reference. Rather, the book deals with a more general approach to the total environment and the use of natural resources. It would seem that this broader approach would be the more desirable for teaching an introductory ecological course, designed to develop an appreciation for our environment and its resources. Naturally, for an advanced course designed for preparing students for occupational proficiency in environmental quality occupations, additional references would be required.

Hollie Thomas
University of Illinois

THE APPLIED BIOLOGICAL AND AGRIBUSINESS INTEREST INVENTORY, Robert W. Walker and Glenn Z. Stevens. Danville, Illinois: The Interstate Printers & Publishers, Inc., 1971.

Teachers of agricultural occupations must identify prospective agricultural occupations students at the eighth-grade prior to the time when guidance people are asking students and parents to complete ninth-grade course selection forms. If the teacher of agricultural occupations does not assist in the guidance process, many students with high interest in agriculture may not have the chance to hear about the opportunities in agriculture.

THE APPLIED BIOLOGICAL AND AGRIBUSINESS INTEREST INVENTORY may be administered to all eighth-grade students. Individuals in the group are classified into three categories depending on their test scores. Scores ranging from 66 through 100 indicate high interest. A range of scores from 44 through 65 shows middle or "lukewarm" interest, and scores below 44 are low.

Each student is provided with a test booklet containing 100 questions and an answer sheet on which one of the following answers will be marked: *strongly like, like, undecided, dislike, strongly dislike.* In addition to the general score in agriculture, four subscores can be obtained which help to identify a student's interest in each of the following: (1) animals, (2) plants, (3) mechanics, and (4) business. The average of the four subscores is equal to the general agriculture interest score.

Prices for THE APPLIED BIOLOGICAL AND AGRIBUSINESS INTEREST INVENTORY

		order #
Test Booklet — package of 20	$3.00	1290
Answer Sheet and Student Survey — package of 20	1.00	1291
Positive and Negative Scoring Keys	.10	1292
Summary of Expressed and Inventoried Interest — package of 20	1.00	1312
Specimen Set — contains single copy of each of the above items	1.50	1293

Frank Stover
Book Review Editor

(Evans, from page 231)

lowed for technical agriculture courses in those days, and I am not alone in believing that these courses were mutually beneficial to Vo-Ag teachers and the professional teaching and Extension Staff at the College of Agriculture. Those of a younger generation will, of course, be more familiar with the workshops in tractor maintenance, visual aids, curriculum revision, etc. also conducted within the frame work of the summer conferences. During the school year itinerant in-service teacher training activities were conducted on a regional basis, a matter made easier by the fact that New Jersey is a relatively small state.

Placement of Teachers. In retrospect it is extremely difficult for me to explain how he so firmly established the perogative of having the ultimate final say in the appointment and placement of practically all teachers of Vocational Agriculture throughout the State during his entire regime; but that he did accomplish this there is no doubt whatsoever and without anyone thinking him dictatorial. Superintendents of schools, boards of education, and advisory committees sought his advice regarding applicants and accepted his recommendations regularly without question. In the few instances where an overly aggressive applicant sought a job on his own, he was a master of the art of "damning with slight praise."

Contribution and conclusion. I shall leave to others better informed to say what his contributions were to general education and more specifically to Agricultural Education.

His role in initial conception of the National FFA organization is too well known to be detailed here. In retrospect, to me he was primarily a very capable, progressive administrator geared to his times; capable of taking the infant idea of Vocational Agriculture Education as embodied in the Smith-Hughes Act, and fostering and nourishing it over the years; meeting head on and resolving the problems implied in an urbanized and industrialized society like New Jersey with its diversified agriculture; and attaining an unusually high degree of success by whatever criteria one may attempt to apply.

Under his administration Vocational Agriculture was held in high respect by one and all. In his own modest way, he quietly went about his duties in an atmosphere of cooperation and mutual respect, winning friends and influencing the lives of those about him. He ran a happy ship and I deem it a great privilege to have been aboard.

People like him, it seems to me, are the great artists for they practice the highest of the arts — the art of life itself.

In conclusion, I readily admit that there is little of value in this in terms of solving the current problems of Agricultural Education. However, one can at least hope that these Tributes To Leaders of the Past will not allow their memory to slip away into the abyss of oblivion.

We, in the present, may hope to be at once more humane, more generous in our sympathies and more sober in our judgments. ◆◆◆

ADDITIONAL ASSISTANTSHIPS AVAILABLE

Additional information received by the Editor concerning available assistantships is included in this issue:

Ohio State University

Research Associateships (4-6); 12 mo; July or September; one-third or one-half time; $300-$450; fees waived; Masters, Ph.D.; Apply to Dr. Ralph E. Bender, Chairman, Department of Agricultural Education.

Research Associateship are also available from The Center for Vocational and Technical Education; 12 mo; July or September; one-half time; $450; fees waived; Masters, Ph.D.; apply to Dr. Robert E. Taylor, Director, 1900 Kenny Road, Columbus, 43210.

(Berkey, from page 225)

be needed to match trained workers to available agribusiness jobs.

4. The similarity of agribusiness production and supply firms in size of business, type of ownership, recruitment practices and exchange of workers indicates that education and career patterns for these two areas may be more closely related than for processing occupations.

5. The tendency of agribusiness workers to be employed in the geographic area where they were born indicates the importance of preparing prospective agribusiness workers for employment opportunities in the local community.

6. Agribusiness supply and production firms express a preference for workers with a **farm background.** This should be used to advantage in guidance and job placement of prospective agribusiness workers.

7. The finding that a majority of all agribusiness workers desire additional training indicates a **need for expanded out-of-school programs** in agriculture, especially in the non-farm agribusiness occupations. ◆◆◆

[1]The agribusiness study upon which the article is based was funded by the New York State Department of Labor, Division of Employment, Albany, and the Agricultural Experiment Station, College of Agriculture at Cornell University, Ithaca. The final report was published as Workers in Agribusiness (ed. Lee Taylor and J. Paul Leagans), Cornell University Agricultural Experiment Station Bulletin 1029, March 1970. The author was a member of the Cornell University research team that conducted the research.

[2]The John H. Davis definition of agribusiness was used in this study: the total of all activities involved in supplying agricultural production inputs, producing food and fiber, and processing and distributing raw materials and consumer products.

[3]The findings reported are taken from the text of the research report and credit is due to the authors of the respective sections. To avoid extensive footnoting in this article, the writer has omitted credit for authorship of individual findings. Any use of these findings in other publications should reference the original research report published as Workers in Agribusiness (ed. L. Taylor and J. P. Leagans), Cornell University Agricultural Experiment Station Bulletin 1029, Ithaca, New York, March 1970.

Members of the Editing — Managing Board of The Agricultural Education Magazine are shown at the AVA Convention in Portland, Oregon December 3, 1971. Front row, l to r: O. Donald Meaders, Central Region; George W. Wiegers, Chairman; J. Robert Warmbrod, Secretary. Back row, l to r: Roy D. Dillon, Editor; James R. Peddicord, Pacific Region; and Harlan Ridenour, Business Manager.

NEW MEMBER EDITING-MANAGING BD.

James R. Peddicord

Mr. James R. Peddicord, State Supervisor of Agricultural Education from Nevada, has been elected to the Editing-Managing Board of the *Agricultural Education Magazine* representing the Pacific Region for a four year term beginning January 1, 1972. He is a Kansas State University graduate, and his experience includes over ten years teaching experience including vocational agriculture, sales manager for a new car dealership, and Nevada State Department of Education.

He is married, with daughter Nancy who has completed a M.S. in Home Economics and son Neil who will soon complete his B.S. in Agricultural Education.

Jim has held several offices in the Nevada Vo-Ag Teacher Association, is presently on the National FFA Board of Directors, a member of Lions International, Chairman of his Church Board, and his hobbies are bridge, collecting barb wire, hunting and fishing.

NEW SPECIAL EDITOR APPOINTED

Donald E. McCreight

Donald E. McCreight, Assistant Professor of Agricultural Education at the University of Rhode Island, has been appointed a Special Editor from the North Atlantic Region.

Dr. McCreight is a former teacher of vocational agriculture at West Manchester, Ohio. He received his B.S. in Animal Science from the Pennsylvania State University, his M.A. in Agricultural Education from Ohio State University, and his Ph.D. in Agricultural Education from the Pennsylvania State University. His major responsibilities in Rhode Island include undergraduate teaching in agricultural education and coordination of a master's program in Youth and Adult Education.

Dr. McCreight is presently the treasurer of the American Association of Teacher Educators in Agriculture, and a member of Phi Delta Kappa, Gamma Sigma Delta, Alpha Tau Alpha, and the American Vocational Association.

NEW PICTURE EDITOR APPOINTED

Richard L. Douglass

Dr. Richard L. Douglass, Assistant Professor of Agricultural Education, University of Nebraska — Lincoln, has accepted the position of Picture Editor of the *Agricultural Education Magazine* beginning with the March 1972 issue. He is a University of Nebraska graduate, has taught vocational agriculture in Sutton, Nebraska for four years, received his M.S. Degree in 1968, and completed the Ph.D. in Adult Education at UNL in August, 1971.

Dr. Dougless' special interests include In-Service Teaching Techniques Program and Instructional Media. He is a member of Alpha Tau Alpha, Phi Delta Kappa, Gamma Sigma Delta, and of state and national vocational associations. His special interest in photography and use of visuals should enable him to contribute meaningfully as new picture editor.

HOWARD MARTIN RETIRES

Professor W. Howard Martin was born 1910 in Vermont, educated in her schools and graduated with honors from her state university. He served as a secondary school teacher, coach, and assistant principal before joining the faculty of the University of Vermont as an assistant professor. His Masters from Cornell University and his Doctorate from the University of Illinois did not complete his education, he is still a practicing scholar. Joining the University in 1946 as Associate Professor of Agricultural Education, he has had a distinguished career — Editor of *Agriculture Education Magazine,* Consultant to the Government of Northern Rhodesia, Editor of the *Connecticut Teacher Education Quarterly,* Director of an Education Professional Development Act Project. He provided strong leadership in the development of the Regional Vocational Agriculture Centers in Connecticut. He will be remembered by his colleagues as he retires for his penetrating analysis of educational problems, his helping hand, and his incisive wit. Howard enjoys his retirement in the beautiful Vermont hills.

OCCUPATIONAL EDUCATION STUDY TOUR

The University of Akron is presently planning its 1972 occupational education study tour to southern Europe. Included in the 21-day tour will be Spain (Madrid), Italy (Milan, Venice, Rome), Switzerland (Geneva), and France (Paris). The tour is currently scheduled to leave New York June 29, 1972 and return July 20.

The educational emphasis of the tour will be on visiting local vocational and technical education facilities in each of the cities visited. In addition, city tours and free time for independent adventures will be provided.

Tour participants may, if they so desire, earn five quarter hours of undergraduate or graduate credit, through the summer program of The University of Akron. Those who are employed in the field of occupational education as vocational or technical teachers, counselors, industrial arts teachers, administrators, etc., may be able to have a major portion of the cost of the tour as an income tax deduction. All educators are welcome to participate.

For further information on this 21-day escorted tour, please write to **Dr. Bill J. Frye, College of Education, The University of Akron, Akron, Ohio, 44304.**