EMPLOYMENT OPPORTUNITIES AND EDUCATIONAL NEEDS IN OFF-FARM AGRI-BUSINESS OCCUPATIONS IN OKLAHOMA

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Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
July, 1971

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PREFACE

What should a doctoral dissertation try to do? First and most important, it should capture the interests of the candidate, it should broaden the knowledge of the student, it should assist in preparing the student to fulfill his goals and objectives in future life.

Further, the study should be one which is relevant to the candidate's desires and needs. It should be one which will uncover new or add to old information in such a way that it may become a resource available for decision making.

Finally, the training received by the student from the study, the association and interaction with the doctoral committee, and the preparation of the final dissertation should be such as to cause the student to become aware of the important aspects of life; leadership, planning, organization, communication, pride in a job well done and hard work. Yes, moral values, honesty, fair play, citizenship, character and personality traits should be advanced, also.

In this study, my feeling is that these goals and objectives have been reached. I trust that I have written something of value. Dare I also hope that this work will help vocational and technical educators to make intelligent decisions in the planning for the education of our youth and adults?

ACKNOWLEDGMENTS

It would be impossible to acknowledge here all of the indebtedness the investigator owes to colleagues, fellow students and vocational agriculture teachers. A study of this scope could not materialize without the cooperation and assistance of many organizations and individuals. While it is not feasible at this time to give due credit to all of those educational institutions, agricultural agencies, businesses and industries that contributed to this study, special mention should be given to the following:

To Dr. Robert R. Price, Professor and Head, Agricultural Education Department and the investigator's major adviser, without whose confidence, counsel and encouragement, this study would not have been possible.

To Dr. William W. Stevenson, Assistant State Director of Vocational and Technical Education and member of the investigator's graduate committee, who was instrumental in the initiation and administration of the study.

To Dr. Robert Terry, Assistant Professor, Agricultural Education Department and member of the investigator's graduate committee and special thesis adviser, whose wise counsel, practical suggestions and personal friendship were highly valued.

To Dr. Charles Hopkins, Planner, Research, Planning and Evaluation Division of the State Department of Vocational and Technical Education, the coordinator for the study and director to the investigator as he performed his duties as a research assistant. His serious and sensible

approach to research and education will always be remembered.

To Dr. Loris Parcher, Professor, Agricultural Economics Department and member of the investigator's graduate committee, whose sincere advice, personal friendship, practical thinking and just cooperation were always encouraging.

To Mr. Byrle Killian, State Supervisor of Vocational Agriculture and Mr. Ralph Dreessen, Assistant State Supervisor of Vocational Agriculture, whose sound judgment and wise counsel were invaluable to the success of the study.

To the District Supervisors of Vocational Agriculture, Mr. Cleo Collins, Mr. Don Brown, Mr. Hallard Randell, Mr. Joe Raunikar, Mr. John Jones and Mr. Benton Thomason, whose suggestions and guidance were invaluable in planning and implementing the study. Also, the cooperation given by these men in the collecting of the data was most helpful.

To Dr. James Key and Dr. Jack Pritchard, Assistant Professors, Agricultural Education Department for their sincere dedication to teaching and personal counseling to all students. It is a pleasure to know and be associated with men of this stature.

To the staff of the Division of Research, Planning and Evaluation, Dr. Don Frazier, Dr. James Harris and Mr. Ralph Ross for their presence and the answering of many, many questions concerning the many facets of the study, I express my appreciation.

To the officers and members of the Oklahoma Vocational Agriculture Teachers Association for their interest and cooperation in the study. The effort expressed in the collection of all needed data was gratifying.

To my wife, Pollyanna, and my daughter, Billie Virginia, I respectfully and lovingly dedicate this study.

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CHAPTER I

THE PROBLEM AND ITS SETTING

Introduction

A matter of growing concern to many people is that presently vocational agriculture programs are not adequately preparing rural youth for the kinds of jobs that are now known to be developing in the broad complex of agriculture. Few people understand the complexity of agriculture or appreciate the scope of occupational opportunities it offers to youth. It is big business.

When programs of vocational agriculture were first initiated in our public schools, the term "agriculture" was interpreted to mean strictly farming and those operations carried out on the farm in the production of food and fiber. Today, "agriculture" has become a more inclusive term. It not only includes those operations carried out on the farm, but also those concerned with supplying and servicing the farmer with the goods necessary for him to carry out his farming operations and those operations necessary to receive, process and distribute those commodities which the farmer produces.

The passage of the Vocational Education Act of 1963 and the 1968 amendments to the 1963 Act stimulated much thought toward ways of expanding and improving instruction in vocational education. It charged vocational education in agriculture with the obligation and opportunity to prepare individuals for agricultural occupations, both in farming and

other than farming occupations. Today, it is generally accepted that agriculture and farming are no longer synonymous.

Today, the average U. S. farm worker produces enough food, fiber and necessities to supply 43 people. Every farm worker is now backed by more than two off-farm employees in agriculturally related industries. Today, three out of every ten jobs in private employment are related to agriculture. (38, 1971)

One hour of farm labor produces nearly seven times as much food and other crops today as it did in 1919-21. Crop production per acre and output per animal unit have almost doubled. In the last decade alone, the realized gross income of the nation's farmers has climbed from about $38 billion (including direct government payments) to more than $54 billion. Realized net income has climbed by 35 percent.

Some experts predict that population will increase by more than 100 million people by the year 2000. In order to feed, clothe and house the predicted 300 million people, the nation's agricultural industry will have to continue to grow both in size and efficiency. In the years ahead, the industry of agriculture will need people with special training and experience to carry out the task of providing essential goods to consumers. To meet these manpower needs, new educational programs must be developed and expanded to train men and women for jobs in the dynamic agricultural industry. About one-third of the nation's working force is employed in the agri-industry complex.

While the overall need for farm labor will be somewhat less in the years ahead, farm operators and workers will need higher levels of training. As the agricultural industry becomes more technical, more commercial, and more integrated with other segments of the national economy,

the percentage of the population directly engaged in farming will level off, but the numbers engaged in off-farm agricultural occupations will increase. (38, 1971)

It was not until this present decade that federal legislation was passed to expand agricultural education to include preparation for off-farm agricultural occupations. In addition to preparing manpower for the business of farming, agricultural educators accepted the added responsibility of training workers for such occupational areas as agricultural supplies and services, agricultural mechanics, agricultural products, forestry, ornamental horticulture and agricultural resources. For the first time, curriculum researchers attempted to identify, on a large scale, those competencies and skills needed by workers in off-farm agricultural occupations. Out of necessity, the cluster concept was conceived as a sound approach to teaching knowledge and skills.

In 1969 enrollments show more than 30 percent of the 536,000 secondary students in agricultural education were in off-farm agricultural education programs. Output in agricultural education is measured in terms of persons trained for jobs in agricultural industry. Enrollment in agricultural education by 1975 is estimated to be 1,150,000 students. Seventy percent of the present enrollment is in agricultural production, but by 1975, it is projected that 56 percent of the students will be preparing for off-farm agricultural occupations. (38, 1971)

The annual output of graduates in agricultural education should correspond to annual manpower needs of the agricultural industry to efficiently match people with jobs.

Statement of the Problem

The increasing number of people needed in agricultural industry and business is creating new job opportunities. This fact, along with the apparent need for providing a training program for present and potential employees for these new jobs, seems to have been partially overlooked. Such oversight may be due to the recent origin and "mushroom" growth of agricultural industry and business. An awareness on the part of educational leaders that there is a need for providing training for individuals either preparing to enter or who are already employed in off-farm agricultural occupations seemed to be sufficient reason for a study of this type.

The central problem which faced the investigator in this study was the lack of reliable knowledge of where off-farm agricultural jobs exist, the number of jobs available and the training necessary to prepare young men, women and adults for entry into these occupations.

Purpose of the Study

It is important to know the immediate, as well as the projected occupational needs and to ascertain the nature and extent of off-farm agricultural employment opportunities. A one, two and three year projection of the available and needed off-farm agri-business occupations in Oklahoma should be provided for decision making. The final data will be made available for use through the Occupational Training Information System (OTIS).

The primary purpose of the study was to supply manpower information, related to agri-business occupations, which may be used for training program expansion or for redirecting existing programs.

Objectives of the Study

The overall intent of the study was to add to what is known about the area of off-farm agri-business occupations in Oklahoma. Specifically, the study was designed to:

1. Locate and identify off-farm agricultural business organizations and occupations in Oklahoma.

2. Determine the number of males and females presently employed, currently needed and the projected requirements for the years 1972, 1973 and 1974.

3. Determine the possibility of 18 year olds being hired, if qualified.

4. Determine the educational levels required to enter the various off-farm agricultural occupations.

5. Determine the turnover and entry opportunities in the surveyed occupations.

6. Determine the off-farm agricultural occupations existing in the following organizational clusters:

   a. Agricultural building and construction
   b. Agricultural finance, insurance and real estate
   c. Agricultural heavy machinery and equipment service and operation
   d. Agricultural machinery and equipment and manufacturing and distribution
   e. Agricultural supplies, service and distribution
   f. Cotton manufacturing, processing and distribution
   g. Dairy manufacturing, processing and distribution
   h. Feed and grain manufacturing, processing and distribution

i. Food manufacturing, processing and distribution

j. Forestry processing and distribution

k. Fruit and vegetable processing and distribution

l. Government services

m. Kennels, pets, supplies and service

n. Livestock industry service and distribution

o. Meat processing and distribution

p. Ornamental horticulture and floriculture

q. Poultry processing and distribution

r. Veterinary supplies, services and sales

s. Others (specify)

7. Determine whether or not high school students (boys and/or girls) are now being employed part time, and whether or not the employer is willing to employ cooperative part time high school students, in a training capacity, for three or more hours per day.

8. Determine whether or not the employer is familiar with the Vocational Cooperative Part Time Education Program.

Rationale for the Study

Farm youth, largely because of their work experiences at home, have a "natural" advantage for gainful employment in any segment of the agricultural complex, providing they have the interest, guidance and the necessary education and training opportunities. How to make youth employable by education and training prior to job entrance poses a vital problem to educators and administrators.

Recent Trends

In recent years, a number of trends have emerged in agriculture and rural life which have had significant implications for persons charged with the responsibility for teaching, administering or preparing teachers for vocational agriculture programs. Some of these trends are:

1. A change from generalized to more highly specialized types of agriculture.

2. A shift of less productive land out of farming and into forestry and outdoor recreation and wildlife use.

3. The transfer of many processing, manufacturing and marketing functions, formerly performed by the farmer on the farm, to specialized businesses at off-farm locations.

4. The rapid mechanization of agriculture and the growth of a large sales and service industry in farm machinery and equipment.

5. A profound increase in service occupations meeting the specialized needs of farmers for feed, seed, fertilizer, sprays, artificial breeding, record keeping, etc.

6. The growth of residential and suburban areas with an ensuing demand for the products and services of ornamental horticulture, floriculture and landscaping.

As a result of such trends, it was specified in the Vocational Education Act of 1963 that ". . . any amount allotted . . . for agriculture may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupations involve work on the farm." (33, 1963) The passage of this act has created a critical need for detailed information concerning the nature and extent of off-farm agricultural occupations in Oklahoma as a

basis for:

1. Determining content for training and retraining programs which will prepare youth and adults for employment in such occupations.

2. Determining the physical plant which will be most conducive to efficient learning.

3. Guiding students in exploring career opportunities in such occupations.

4. Guiding students in evaluating their own capabilities against the requirements of off-farm agricultural occupations.

5. Planning programs for the preparations of teachers for the new programs.

6. Documenting the need for maintaining or expanding programs of vocational agriculture.

Education for Employment in a Changing World of Work

According to Mason and Haines (35, 1965):

> One of the most conspicuous tendencies in the development of vocational education is the increase in the number of agencies employed to meet the training needs of both the student and adult. Another trend in vocational education below the professional level is that of going directly to the vocations for curriculum materials.
>
> Vocational education has developed into a specific phase of one's education which makes preparation into an advancement in his vocation, the chief means of making a livelihood. The complexity of occupational life, with its frequent changes, makes choosing a career and preparing for an occupation two of the major problems confronting modern youth.
>
> One of the most promising developments of recent years in vocational education has been the marked growth of interest in cooperative and occupational programs. Over the years it has become clear that no vocation can be completely mastered in a school.

It has been found that a relationship is needed between the learning of concepts, the forming of thought habits and attitudes, and the mastery of skills, which will properly relate them in the training experience of the learner.

Schools may use the world of work in a number of ways as a part of their curricula to establish cooperation with business and industry.

When planning appropriate vocational education programs, we should look first to the people, their needs and aspirations. High rates of job changing among youth, due in part to a lack of training and experience, point to a need for improved vocational guidance and education, thus an improved curriculum.

Work Environment as Part of Curriculum

The work environment (a job situation) is used frequently as a teaching-learning situation by high schools, post-high school institutions, colleges and universities. In this way, educational institutions have extended their curricula beyond the four walls of the school. Thus, to the educator, the job or the project becomes an occupational laboratory, one controlled and supervised by the school to provide educational experiences that are not obtainable in the school itself. Some of these experiences may be general education in nature, while from others vocational education may be received. Work experience programs are general education in nature, while programs involving occupational experiences are vocational in nature.

Mason and Haines (35, 1965) says:

> It is desirable for persons entering occupations to be able to translate classroom theory into application on the job with a minimum of adjustment. This holds true whether the occupations are semi-skilled, skilled or

> professional in nature. Experience in a work environment for those still in school eases any difficulty of adjustment that may be encountered as beginning employees.

In general, one can say that the work environment as part of curriculum is used by educational institutions to accomplish one or more of six major purposes or goals.

1. To keep over-age pupils (or under-achievers and potential drop-outs) in school part time while they obtain needed general education.

2. To help pupils and college students to explore the world of work and to assist them in occupational choice-making.

3. To help maladjusted pupils with personality and behavior problems.

4. To help students earn money who otherwise would need to drop out of school.

5. To provide practice in what has been learned in the classroom and assist in the transition from school to job.

6. To develop general and specific occupational skills, knowledges and attitudes.

Cooperative, distributive and/or off-farm agri-business occupational education has as the primary goal the development of occupational competency, based on the student's stated career objectives.

During the course of the training the student will be hired as a "learning worker" in a job commensurate with his ability and his career objectives. The classroom activities will be directly related to the job activities and the trainee's occupational goal. The trainee is provided with a variety of job experiences, often involving rotation through different departments of the firm. The students who need the instruction, want it, and can profit from it, are selected. The train-

ing stations which are selected are the ones which are responsible, can and will provide training. An important responsibility of the school is to employ an occupationally competent coordinator with sufficient time to provide consistent program direction. Emphasis should be placed on a program of coordinator job visitations and employer conferences to plan learning experiences, evaluate trainee's progress, and aid in solution of any problem. A requirement that the trainee be employed at the going rate of pay for trainees in the occupation is important.

A summary statement concerning cooperative distributive education and work experience as they relate to developing occupational competence has been made by Louise Bernard (34, 1962), Virginia State Supervisor of Distributive Education:

> Cooperative education is part of our total educational system; young people can rely on it, whereas they cannot always rely on non-structured programs that merely put them to work . . . This kind of supervised, coordinated, related training is the most realistic training for the new worker about to enter our complex economy on his own. It gives him a foundation of good work habits despite the apparent (to him) chaos of business and industrial technology. He has self-respect and pride, the two basic elements of employee honesty.

Changing Nature of Occupations

Mason and Haines (35, 1965) indicate that:

> The changing nature of the occupational world is in reality an interaction of many forces. Among the major aspects of the forces for change are: the changing make-up of the labor force, the changing employment demands in occupational areas, and the changing requirements of worker competence. Educators must analyze carefully the changing occupational demands if curricula and counseling are to be responsive to actual conditions in the local service area.

> The occupations that require the most education and training have grown the most rapidly, while employment has dropped in unskilled jobs. Professional, technical, and kindred workers have been the fastest growing of all the major occupational groups.

The man or woman without a skill and without a job in today's new world - no matter what lofty words he or she says or hears - knows that they are less than free. The schools share a definite responsibility for providing this freedom, insofar as this can be done within the confines of education.

We have been and still are victimized by the fixed idea that our schools are primarily intended to produce potential college students. Our schools, reflecting the wishes of many parents, emphasize academic subjects, glorify the undisputed virtues of higher education, and undervalue vocational training. Students "know that 70 percent of them will never darken the door of a college classroom. They know that the college preparatory curriculum is irrelevant to their needs." (36, 1968)

The shifting of so large a portion of agriculture from farm to city greatly influences the occupational opportunities of our youth. The opportunities on the farm are reduced and the range of opportunities in the cities is increased, while in both instances qualifications required of workers have continued to increase, making it increasingly difficult for educational processes to keep up. This study should lend a perspective to educators who face the challenging task of providing training programs for the ever changing requirements of agriculture.

Competency Developments

The strength and progress of agriculture is dependent upon individuals who are competent to fulfill its occupations, whether on the farm

or in the town and cites. The pre-employment education must come from the schools because the farm and the off-farm sectors have limited resources for training workers. The more advanced the skill, the more training the schools must provide.

Today, there are over 300 high schools in Oklahoma offering vocational agriculture. Each faces the dilemma that has confronted agricultural teachers and administrators since the opening of the first door. "What shall the program include to fully meet the needs of students?" There is more interest in this today perhaps than ever before, largely because of the increasing complexity of the world of work. The main problem now is how to develop programs broad enough and to assemble the resources to make them functional in the lives of students. Occupational opportunities for trained persons extend throughout the state and into the metropolitan areas, showing that agriculture is much more than farm production, involving thousands of workers who furnish supplies and services and who transport, process and market farm products over the state and nation.

Vocational agriculture classes in high schools, supported by appropriate work experiences, must assume a dual role:

1. Develop competencies required to make a beginning and to advance in farming.

2. Develop competencies needed to enter and advance in off-farm agri-business occupations in which agriculture knowledge and skills are required.

Program Planning

The training should be geared to the labor market. The benefits

derived from vocational agriculture in a locality or in the state will be in direct ratio to the degree to which the program is geared to the needs of the area served. In planning the training program, mobility of the trainees must be taken into account. Prospective workers under present day conditions often move to areas where employment opportunities exist; hence, the requirements of the state labor market must be known, along with the local situation, if the training is to be fully functional. The metropolitan areas have jobs, while rural areas have prospective workers. The problem is to bring the two together.

A special challenge to the modern day vocational-technical educator is the ever-increasing difficulty in the development of a curricula which will result in adequately trained manpower to meet the employment needs of the nation. There is a wide variety and complexity of necessary skills required by individual industries and groups of related industries. The curricula should be so designed as to provide the vocational-technical student with a high level of competency in a specific skill area and at the same time encompasss a variety of closely related skills and knowledge which will allow him to apply his training in a number of different settings and related industries.

To perpetuate learning the teacher must be first a learner. Greater freedom in the general scheduling of teachers to accommodate their learning outside the classroom would inevitably improve their ability and approach inside the classroom. Full time teachers should be given one-half day of class work and other half free for personal research, practice and learning to encourage their role as continual learners. All teachers would avoid complacency and static programs by holding temporary exchange assignments in another school. In addition, leaves of

absence for temporary stay in industry or personal research would be granted to teachers to support their efforts while teaching.

Implications for Vocational Education

The movement toward vocational and technical education in Oklahoma was verified by Mason and Haines (35, 1965) who stated:

> Vocational education programs can assist in lowering unemployment rates by training young people and adults and by retraining the unemployed for skilled, service and technical occupations. If national policy requires increase in labor productivity, vocational education can help assure that the labor force will attain the 4.5 percent average annual increase in productivity necessary in the present decade to meet the accepted goals for national economic growth in our free-enterprise economy.

It is becoming increasingly clear that there is no real assurance now that mastery of an occupation, when obtained, will last any worker a life time. Pre-employment training for youth must provide a solid occupational foundation. Since more and more workers will need a program of lifelong learning, continuing educational opportunities need to be provided to cope with occupational change. Vocational educators must train broadly for career patterns, for families of occupations, and for a lifelong sequence of employment opportunities.

Research and Development

Research and development programs must be undertaken at all levels of educational endeavor, showing effective ways to meet human needs for work in the total agricultural complex, rather than restricting the training to a few specific occupational categories.

Agriculture will continue to be a substantial and influential industry in the state, yet educators must recognize that agriculture is part

of a society in which occupational structure is rapidly changing. New concepts of training programs become necessary as some occupations expand while others disappear or become more restricted. There is no decline in job opportunities; in fact, job opportunities outstrip training resources. Emerging jobs and the increasing importance of the existing ones demand a higher level of competency. Agricultural education is on the threshold of a period of great growth and progress.

Assumptions and Limitations of the Study

Assumptions

Basic assumptions accepted by the investigator at the outset of the study included:

1. That the types of agricultural agencies, businesses and industries selected for the study were considered to be the most important off-farm agricultural businesses in Oklahoma and the list of firms used was reasonably complete and representative of the businesses and services which employed persons needing agricultural competencies.

2. That the data collectors (vocational agriculture teachers) in each county would be capable of conducting interviews in a consistent, acceptable manner, and thus, could secure valid and reliable data for the study.

3. That employers could identify the competencies or educational level needed for successful job performance.

4. That information secured through this study would provide valuable information for curriculum development for off-farm agri-business occupations training programs.

5. That the questionnaire would elicit valid information.

6. That off-farm agri-business occupations would occur at all levels of employment.

7. That the job titles identified in the study would be representative of the full range of occupations to be found in the off-farm agri-business area.

Limitations

1. The data were obtained exclusively from employers.

2. The study was limited to the seventy-seven counties in Oklahoma.

3. The study was limited to off-farm agri-business occupations because of the nature of the study.

4. The data collection was accomplished by vocational agriculture teachers of the State of Oklahoma.

5. The study is subject to error due to changes in the economy, unexpected "new industry starts" and other intervening variables, such as "peaks" and "lows" created by seasonal labor demands.

6. The study was limited to agencies, businesses or industries doing business in Oklahoma that were believed or thought to employ persons that need proficiency in agricultural competencies.

7. The study may have been limited because there was no single official source at the state level from which to secure a reliable list of firms which employ agriculturally competent personnel.

Definition of Terms

Since there is not an accepted terminology for some of the concepts included in this study, working definitions had to be provided.

Off-farm Agricultural Occupations - means the position or job with-

in an agency, business or industry which requires the employee to have a certain level of agricultural competency, and is performed primarily in a location other than a farm. It is not considered to be a farm production type position or job.

Agricultural Occupation - an occupation in which employees need competencies in one or more of the primary areas of animal science, plant science, soil science, agricultural business management and/or marketing and agricultural machinery. Refers to all kinds of employment requiring a knowledge of agriculture both on and off the farm.

Occupational Education - all education that contributes to occupational choice, competence and advancement.

Agricultural Competencies - the knowledge, skill or ability in one or more of the primary areas of animal science, plant science, soil science, agricultural business management and/or marketing, agricultural machinery and agri-related businesses.

Off-Farm Agricultural Agency, Business or Industry - refers to that enterprise which performs agriculturally related services through processing, marketing, buying or distribution. Thus, is defined by a set of common requirements.

Occupational Cluster - a broad base for all jobs or occupations within one primary agency, business or industry. Refers to a grouping by the association of common elements.

Occupational Training Information System (OTIS) - a system which interfaces manpower demand and supply by job cluster and indicates net manpower requirements for the state and region within the state.

Agri-Business - refers to the total of all activities involved in supplying agricultural production inputs, producing food and fiber, and

processing, distributing and servicing raw materials and consumer products.

Agencies, Businesses, Also Industries - those companies, firms, organizations, services or any combination of these, in which are found positions of employment which fall within the concern of this study.

Competency - ability, knowledge or skill

Cooperative Occupational Experience - a program to provide supervised training for gainful employment in agri-business occupations. The program is accomplished by establishing a cooperative arrangement between the school and the agricultural agency, business and/or industry in the community.

CHAPTER II

REVIEW OF RELATED RESEARCH

There is little doubt that our society today requires or even demands that all actions are in response to a need, whether it be direct, indirect, official, unofficial, real or unreal. At the national level, needs have been felt with respect to occupational education that cause Federal mandates to be enacted. For example, Ellis (1, 1970) pointed out:

> The lack of summary data on which vocational education legislation was adopted by the 88th Congress, 1st Session, makes it necessary for scholars to search through a myriad of documents for information regarding the proposed legislative measure. This study was an attempt to identify and abstract major activities, events, issues, positions and decisions which led to the enactment of the Vocational Education Act of 1963.

These Federal mandates provide financial assistance to the states to help in support of various programs of occupational education.

To comply with Federal mandates, state mandates were enacted in response to state and local manpower needs and the availability of Federal financial assistance. Within the limits of the Federal and state mandates, operational procedures and guidelines are formulated to be followed by the local area in setting up and conducting various programs of occupational education with state and Federal assistance.

Program Planning and Curriculum Development

There appears to be general concern about the task of selecting

programs to be offered and developing the curriculum for these offerings.

The 1968 amendments to the Vocational Education Act of 1963 indicate that the Congress recognized the imperative role of curriculum development in an expanding program of vocational education. This role is complicated by a variety of geographical, educational and procedural factors. (2, 1969)

In his presentation of "A System Approach," Hopkins (3, 1970) pointed out that:

> Much information needs to be gathered before goals can be established that have meaning for vocational education. Most programs are planned with little or no background information being utilized in their planning. Often programs are offered in school because they are popular or that they are being offered because other schools are offering them.

Stevenson (4, 1966) stated in the conclusions of his study, that more precise information is still needed to guide supervisors and teachers in program planning. Further research is indicated in the following areas:

1. A procedure for keeping informed on the needs and opportunities in production agriculture and agricultural business.

2. Determination of the most efficient method or combination of methods of training for employment in off-farm agriculture.

3. Detailed descriptions of the more important job titles in off-farm agricultural businesses.

4. Study of other businesses which may offer employment opportunities to people trained in agriculture.

5. A clear definition of what should be taught at the various levels of our educational system.

6. A re-definition of what is meant by agricultural competencies

which include agricultural business competencies as well as production competencies.

Burlingham and Juergenson (5, 1967) asked the question, "Just how should a teacher of agriculture proceed in preparing to teach off-farm agricultural occupations?" They further stated:

> The problem of what happens, occupationally, to students of agriculture in the secondary schools must be of paramount concern to all agricultural educators. It is known that the greater proportion of these students will find employment in the off-farm agricultural occupations rather than in production agriculture, if they are well taught and prepared for such beginning employment, or will continue on for further training. The modern concept of agriculture as a career is that it consists of not one but a cluster of occupations, and that instruction should be tailor-made to assist in motivating and preparing young people for employment in the off-farm agricultural occupations in the broad fields of agricultural services, supplies, business and management.

Remarks were made by Hull, Norris and Dupy (6, 1967) in the introduction to their study, "Developing Occupational Experience Programs in Agricultural Distribution," as follows:

> Many rural youth are finding it difficult to obtain employment in their local communities and are moving into urban areas to find employment. In many rural high schools vocational agriculture has been the only type of vocational education available. While this has adequately served those going back to the farm, it has not provided those with skills who were going into other types of employment, both in off-farm agriculture and other areas. The Vocational Education Act of 1963 makes it possible for vocational training agriculture to be provided for all types of agricultural occupations, both on and off the farm.

In a recent study by Arnold and Ferguson (19, 1970) a major objective was to develop a set of guides for future use by school districts which would aid in the identification of those occupations that should be of concern when planning educational school programs for the district.

The following guides were suggested: (1) an integrated system of selection; (2) importance of local manpower needs; (3) use of existing manpower data; (4) local occupational survey; (5) survey and card sort instruments; (6) student needs card sort; (7) assessment of student and parental aspirations; (8) geographic mobility of students.

Courtney and Coster (21, 1963) and Binkley (22, 1965) espoused the point of view that the basis for curriculum planning in agricultural education is the core of abilities required for farming. They maintained that the starting point in curriculum planning for vocational education in agriculture is the identification and selection of ability required for farming. The next step, according to their point of view, is the identification and application of these abilities to occupations other than farming. Apparently, this point of view has influenced much of the research pertaining to curriculum development since most of the investigations have employed techniques of analysis designed to identify the common elements between farming and off-farm occupations or to determine the common elements among the various jobs within off-farm agriculturally-oriented businesses.

A guide for the development of curriculum in vocational and technical education was prepared by the Division of Vocational Education at the University of California (32, 1969); this compilation included the following expressions:

Progress in education is directly related to the curriculum development. There are certain concepts and assumptions which must be understood for thorough comprehension of curriculum development in vocational and technical education.

Vocational education is committed to plan programs for all kinds of

people in all kinds of communities, and for all kinds of occupations. This requires curriculum specialists to work toward improvement of existing curriculums and to create instructional programs for new occupations. Vocational-technical educators must also work much more closely with business and industry so as to bring into being better training objectives that meet the true needs for successful employment.

A well-planned curriculum, incorporating the multi-media approach for use of instructional material, will enable the vocational-technical teacher to provide the kind of learning experiences and opportunities for the student to achieve the educational objectives most effectively and efficiently.

The curriculum, no matter how well-planned, will have educational value, only to the extent that it is properly used. Teachers are generally not curriculum specialists and need assistance in developing their own materials. The job of curriculum development, a tremendous task that will never be completed, requires a well-planned system of coordinated efforts. A plan of coordination, to be effective, must be administered nationally.

There is a need for rapid expansion of the total program of vocational-technical education which cannot be met until an adequate program of curriculum development is in continuous operation. At present, there is a shortage of curriculum specialists; and, until many more such persons become available, the total program of curriculum development will be prevented from expanding so as to better meet the needs of vocational-technical education. It seems imperative that a nationwide program of training be initiated.

Curriculum is defined in terms of the sum of the experiences that a

student has under the guidance of the school.

From High School Training to the World of Work

Several theoretical approaches have attempted to bring into focus the process through which late adolescents move in the transition from high school training and education to a work situation. Super, Ginzberg and Ausubel have been three of the most active theorists in this area.

Ginzberg (7, 1951) and Super (8, 1963) view vocational choice as a development process of several stages. Ginzberg conceptualizes individuals between the ages of 14 and 21 as being in a realistic stage of vocational development. Through exploration the adolescent is better able to crystallize and eventually specify an educational or vocational choice to which he can commit himself with some confidence.

A recent formulation was presented by Super (8, 1963) in a monograph. He attempted to deal with exploratory and establishment stages of vocational choice in a way which furnishes a basis for research.

The educational development of the exploratory stage is described as crystallizing an educational preference, specifying an educational preference and implementing an educational choice. This is the stage in which the individual narrows his field of preferences, commits himself to a specialized program of education or training, and finally makes his choice as a reality. A student that continues in a program until successful completion could be seen as crystallizing and specifying his educational-vocational concept.

Ausubel (9, 1954) earlier stated:

> The adolescent must exchange derived status for primary status, become a person in his own right, and acquire intrinsic feelings of adequacy and worth. In this process, the choice of a vocational (or educational)

> goal plays a crucial role. The chief agent in promoting development is exploration which furnishes the adolescent with opportunities to make (educational) choices and independent decisions, to play different kinds of adult roles, and to establish his own identity.

Previous Related Studies

Several state-wide studies and studies encompassing smaller areas have been conducted recently which were concerned with locating and identifying off-farm agricultural related occupations, numbers of employees, educational requirements and the projected requirements for the next three to five years. Most of the studies of this nature have not been concerned with total agricultural employment opportunities - both on-farm and off-farm.

Recent studies in off-farm occupations were conducted by Baker in Alabama (1965), Brum in Ohio (1965), Langdon in Michigan (1965), Warmbrod in Illinois (1966), Loreen in Washington (1967), Judge in Massachusetts (1965), Griffin in Missouri (1964), Cushman in New York (1965), Christensen in Nevada (1967), Gadda and Pollman in South Dakota (1969), Loudermilk and Richman in Idaho (1967), Drake and Tom in New York (1968), Hoover, McClay and Stevens in Pennsylvania (1966), Wall, Snowden and Shepherd in Mississippi (1967), Bailey in West Virginia (1965), Cromer, Snell and Larson in Nebraska (1970), Mondart and Curtis in Louisiana (1967), Beard in North Carolina (1965), Barwick in Delaware (1965), Duncan in Georgia (1966), Hamilton in Arizona (1969), Fuller in Illinois (1965), Research Division, Virginia Polytechnic Institute (1968), and Webb and Johnson in Texas (1969).

Several studies have been conducted in the United States similar to this study. An analysis of six studies conducted in the states of Cali-

fornia (1957), Pennsylvania (1965), Michigan (1965), Washington (1964), New York (1965), and Illinois (1963), revealed the following general findings:

1. The most common types of businesses employing agriculturally trained persons are those engaged in sales and services of agricultural products.

2. The need for farm experience and a high school education is rated high by a majority of the employers of persons engaged in off-farm agricultural occupations.

3. Opportunities for the agriculturally trained person in businesses associated with agriculture has been largely overlooked by vocational agriculture people.

4. Training in business education is recommended. Salesmanship and merchandizing is considered especially important for training programs in off-farm agri-business occupations.

5. Employers of off-farm agricultural workers place more importance on actual farm experience as one moves from the unskilled to the skilled and into the sales, consultant and supervisory positions.

6. Needs for a majority of the off-farm agricultural occupations cut across the entire field of technical agriculture.

Based on the data and conclusions drawn from a study of employment opportunities in off-farm agricultural occupations in Alabama (16, 1965) the following seem appropriate:

1. Vocational agriculture should broaden its instructional program to include education for off-farm agri-business occupations.

2. Vocational agriculture should strive to improve its communication with businesses and industries that provide supplies and services

to farmers and other producers of plants and animals.

3. Vocational agriculture should include instruction to acquaint students with the existing employment opportunities, occupational characteristics and the pre-employment educational needs for off-farm agricultural occupations.

4. Local departments of vocational agriculture should determine the number of employment opportunities available in their service area.

5. Teachers of vocational agriculture should assume the responsibility in the placement of high school vocational agriculture graduates.

A preliminary report by Lloyd J. Phipps et. al., (17, 1964) at the University of Illinois, indicated that most prospective technicians and other workers needing technical education must prepare for effective job performance by gaining work experience prior to employment, through formal training on the job, or both. Also, the age limitations, other than those established by law or insurance regulations did not appear to be a major concern of the employers.

A Discussion of Education

What pattern of education will best prepare American youth for satisfying, useful and gainful work at the termination of the period of formal schooling?

Some points of interest from the Final Report of the Summer Study on Occupational, Vocational and Technical Education, held at Massachusetts Institute of Technology in July and August, 1965 (18, 1965), were: Without direct experience with his material and tools, the worker does not develop a sense of excellence. The "mismatch between man and machine," which is currently thought to be the root of many conflicts

within our society is a delusion. The alienation between man and material is the more basic problem and a resolution should be regarded as an important responsibility of education.

This alientation reflects the position of vocational education today. The teachers and students are disadvantaged, and artificially so, by the separation of the act of doing (the skill being taught) and the more important knowledge about the material upon which the skill is being performed. The synthesis of these two processes provides the necessary connection between man and material which is lacking in a curriculum designed to develop specialized skills.

We must seek information from a variety of sources. People from industry, craftsmen, service reparimen, all can contribute their knowledge of the practical world to the improvement of vocational education.

Not going through college or dropping out of school is an unequivocal disgrace. Consequently, 65% of American youth list college as their principal objective. Given a choice for their children, parents choose the profession of teacher second only to medicine. The artificiality of this extreme value on security and social prestige forces those who might succeed in another realm to compete in a world for which they are not suited and from which they receive no satisfaction. Clearly, a broader scope of education would allow each person a wider range of goals which would enable him to direct his own interests and abilities toward a useful, satisfying career without regard to the arbitrary and often decisive pressure upon him. Hopefully, the student would have a more sound basis for his decision were he allowed to pursue a more individual goal.

Some Recommendations

The following recommendations are made in regard to vocational education programs in agriculture in a study by Homer V. Judge, School of Education, University of Massachusetts (20, 1965): (1) Programs of vocational education to train workers for off-farm agricultural occupations be developed based on accurate information in regard to job opportunities and competencies needed for the specific jobs or cluster of jobs for which the programs are designed. More research is needed. (2) Administrators and teachers of vocational education in agriculture work more closely with employers of off-farm agricultural occupations. An informational and public relations program should be established to acquaint these employers with present programs of vocational education in agriculture. Realistic programs for training off-farm agricultural workers to meet present and future needs should be developed in cooperation with employers. (3) A program of supervised occupational experience be made a part of any program of vocational education for off-farm agricultural occupational training. The on-job training program of occupational experience must be directed by the teacher of vocational agriculture. (4) Educational programs be established to up-grade off-farm agricultural workers through training programs for employed workers both to improve performance in present jobs and to prepare workers for job advancement. (5) Leadership training be included in all programs of vocational education in agriculture. The Future Farmers of America has proven an excellent device for leadership training. Programs which will incorporate such leadership training need to be made an integral part of vocational educational programs for off-farm agricultural occupations. (6) Training programs be broad enough in scope and content to give stu-

dents sufficient understanding as well as needed competencies and abilities for successful job entry and advancement. (7) Programs must be designed to fit students as well as to fit job opportunities. (8) Business principles and management be included in all vocational education programs for training in the off-farm agricultural occupations. (9) Programs be developed for graduates of off-farm agricultural training programs to assist them in continued learning and job advancement.

An assumption of a study is that valid and reliable instruments are used for collecting data about activities and competencies upon which curriculums are constructed. Courtney (21, 1962) was the only investigator, at that time, reporting a reliability coefficient for the instrument which had been developed. Validity of the instruments, admittedly difficult to ascertain, is enhanced considerably when recognized experts in the job or industry being investigated are consulted in the preparation of the instrument. Such a procedure should assure content validity for the instrument.

Instruments which determine and analyze activities performed by workers may be more valid as a basis for curriculum construction that instruments designed to obtain workers' and employers' opinions concerning understandings and abilities needed for successful job performance.

Other Research Studies

Reviews of research in agricultural education have indicated that research has traditionally motivated the reshaping and up-dating of curriculums in agricultural education (23, 1950), (24, 1960). The principle that programs of agricultural education should be based on and derived from the needs, problems and aspirations of local communi-

ties has been accepted generally. Consequently, much of the research pertaining to curriculum development in agricultural education has been conducted in local communities for the specific purpose of devising curriculums applicable to particular localities.

The series of studies conducted at Iowa State University to determine the competencies needed by workers in selected off-farm agriculturally-oriented businesses provided extensive data for use in curriculum development (25, 1964), (26, 1964), (27, 1964), (28, 1964). The curriculum research reported was concerned primarily with occupational analysis as the basis for determining subject matter content. Research of this nature is essential. However, it is not sufficient to answer other questions which are relevant. Questions pertaining to sequence of subject matter, the level at which subject matter is taught, organization and structure of content, the amount of time needed to teach the various subject matter areas, and curriculum evaluation are problems to which subsequent research should be directed.

A summary of the findings at the Center for Research and Leadership Development in Vocational and Technical Education (1965) at the Ohio State University included these conclusions: (1) the agricultural competencies needed by workers in the off-farm businesses are determined primarily by the products handled by the businesses; (2) competencies relating to salesmanship, human relations and business management are needed by employees in the off-farm businesses; (3) much of the agricultural content taught persons who are preparing for work in production agriculture is needed by persons who are preparing to enter the off-farm agricultural occupations.

From a study at Ohio State University by Hensel and Johnson (29,

1967), entitled, "An Evaluation of the Off-Farm Agricultural Occupations Materials," it was concluded:

> 1. An effort should be made by state and area or district supervisory personnel to acquaint more vocational agriculture teachers with the off-farm agricultural occupations materials which have been developed for use at the local level.
>
> 2. Future curriculum material activities should be designed to develop individual study guides, assignment sheets, and unit tests which will allow teachers in varying situations to offer programs in more than one off-farm agriculture area with a minimum of teacher time and effort. With these additional materials available, it would be possible for a one-teacher department to offer individualized instruction in more than one area even though the number of students interested in each specialized area was minimal.
>
> 3. Future curriculum development activities in vocational and technical education should consider the procedure used to develop and disseminate the off-farm agricultural occupations materials.

Beard (31, 1965) in his presentation, given at the National Conference on Off-Farm Agricultural Occupations, stated, "You will note the relationships that must be developed between students and the school, between the school and jobs, and between students and jobs. In each case of need, educational leadership is required. It is true that we cannot wait until there is complete consensus on what general education is, versus off-farm agricultural education. On the other hand, we should not push ahead alone in isolation to stake out new territory, defensively thinking that good farm training has lost its effectiveness and appeal. We can move ahead with the business of providing educational leadership. It was done in educational philosophy (democratic education), teaching methods (supervised practice), student teaching (contact with the home), and research (educational innovations). Others will benefit and we need the help of others."

Beard further stated, "There must be research and development in the establishment of programs for off-farm agricultural occupations."

A publication was prepared to give guidance in implementing the Vocational Education Act of 1963. A set of guiding principles were designed by Fuller (30, 1965) in order to be sure that sound and consistent decisions are made. This set of guiding principles might include the following:

> 1. High school education for occupations in industry where agricultural knowledge and skill are required should prepare students for entry and advancement in an agricultural industry rather than preparing them only for entry into a single occupation.
>
> 2. High school education for occupations in industry where agricultural knowledge and skill are required should include a basic core of instruction in soil and plant science, animal science, agricultural economics, agricultural engineering, and rural living.
>
> 3. High School education for occupations in industry where agricultural knowledge and skill are required should include a basic core of instruction regarding the business operations of agriculturally-oriented firms, taught in relation to the agricultural activities of the firms.
>
> 4. Agricultural experience programs may include situations that provide learning through (a) employment, (b) observation, (c) supplementary experiences in agriculturally-oriented firms.
>
> 5. Agricultural experience programs should include a basic core of experiences which relate to the units of instruction in the course outline.
>
> 6. Agricultural experience programs should emphasize education rather than the "work for pay" motive.
>
> 7. Agricultural experience programs should be planned cooperatively by teacher, pupil, employer, and parents.
>
> 8. Agricultural experience programs should be supervised by a teacher of agriculture.

A major purpose of education is to prepare people to adjust to and improve the present and future society. Vocational education must be

considered a part of the total education of an individual. Vocational education must concern itself with the teaching of basic general knowledge and skills as well as vocational knowledge and skills. Vocational-technical education can assist in the development of desirable attitudes, work habits and personal characteristics that are necessary to live and participate successfully in this society. Education, general and vocational, must be continuous throughout one's life.

Development of the Study

This study was developed to locate and identify all off-farm agri-business occupations in Oklahoma; to determine the total number of trained people needed; to determine the requirements of jobs in terms of education and other factors, such as age and sex; and to determine the projected employment needs for the years 1972, 1973 and 1974.

For the purpose of this evaluation, needs were examined for society, business, industry and students. Society has a need for all its members to be fully employed and this need represents a labor supply. Business and industry have a need for a full work force and this need represents a labor demand. The individual student has a need to have his or her interests and ambitions satisfied and to have earning power with the society.

The development of the study was influenced primarily by the investigator's activities associated with the Division of Research, Planning and Evaluation of the Oklahoma State Department of Vocational and Technical Education, as a research assistant. It was indicated by the administration that there was an urgent need to have a study in the area of off-farm agri-business occupations completed.

In order to accomplish the purpose and objectives, early activities of the investigator were directed toward organization and planning. An organizational meeting was called. Those in attendance were staff members of the Division of Vocational Agriculture, staff members of the Division of Research, Planning and Evaluation, staff members of the Agricultural Education Department, Oklahoma State University, officers of the Oklahoma Vocational Agriculture Teachers Assocation, and the members of the Industrial Relations Committee of the Oklahoma Vocational Agriculture Teachers Association.

It was agreed unanimously that the study was feasible and should be instigated as soon as possible. The date for the beginning of the study was set, the time for the data collection was discussed, possible procedures for data collection were discussed, and the completion date for the study was stated.

The instrument for collection of the data was drawn by the investigator. It was presented to the vocational agriculture staff and the Research, Planning and Evaluation staff for their suggestions and corrections.

Test of Instrument and Procedure

To improve the quality and to substantiate the instrument, a pilot test was conducted in the local community of Stillwater, Oklahoma. Ten different off-farm occupational organizations were interviewed. As a result of the pilot test, improvements in the instrument and procedure were made.

Funding for the Research Study

The investigator, with the advice and assistance of the study coordinator, Dr. Charles Hopkins, developed and presented a proposal to the Exemplary Committee of the Oklahoma Vocational and Technical Education Department for funding of the study. The total amount of the funds was approved and used to reimburse the vocational agriculture teachers for their services as data collectors.

CHAPTER III

DESIGN AND CONDUCT OF THE STUDY

The problem, purpose and objectives of the study influenced the design and conduct of the study. In order to collect and analyze data pertaining to the purpose and objectives, it was necessary to accomplish the following tasks:

1. Determine the population for the study.
2. Develop instruments for data collection.
3. Develop a procedure for data collection.
4. Determine methods of data analysis.

The Study Population

This investigation was conducted on the premise that the most suitable means of obtaining detailed information about the off-farm agribusiness occupations was to interview the persons most familiar with those occupations, the owner, manager or official representative of the agencies, businesses or industries in Oklahoma. Likewise, it was felt that interviews with employers would constitute the best sources of data and manpower information which may be used for expansion or redirection of existing programs of vocational agriculture.

After several meetings with the staffs of the Division of Research, Planning and Evaluation of the Oklahoma State Department of Vocational and Technical Education, it was decided to survey all seventy-seven

counties in Oklahoma. Thus, the study population consisted of 2542 businesses which employed 23,306 workers and which were located throughout the state. Since the size and scope of the study was too large for one person to accomplish within the allotted time, it was decided to ask the vocational agriculture teachers to assist.

Development of the Instrument

Because of the size, scope and importance of the study, it was necessary to give considerable thought and planning toward the development of the instrument. It was felt that a multi-purpose instrument was necessary to obtain information relative to the purpose and objectives of the study.

In order to secure assistance in developing the instrument, a letter was written to all agricultural education departments in the United States. The letter requested research information which was relevant to this study and which had been completed in the last five years. Many departments responded with information that was useable. (See Appendix A for a copy of this letter.) Dr. James Harris, Data Analyst, Division of Research, Planning and Evaluation worked closely with the investigator in drawing the instrument profile.

The Dictionary of Occupational Titles, the Chronicle Occupational Briefs and the Occupational Guide were reviewed to determine the types of data to be collected. Also, this information was used to cluster the job titles under the main types of occupational categories. The survey form was designed to elicit selected general characteristics of the businesses and occupations such as: (1) name and address of the agency, business or industry cluster; (2) number of employees; (3) type of

agency, business or industry cluster; (4) the employment possibilities for qualified 18-year olds; (5) current practices regarding employment of students on a part time basis; (6) degree to which employers were familiar with the cooperative part-time training program in vocational agriculture; and (7) whether employers would hire high school junior and senior students in a training capacity for three or four hours per day. In addition, certain specific information about the occupations was obtained, including: (1) number of employees now being employed under each job title; (2) number of employees now needed; (3) minimum education required and preferred for each job title; (4) the number of additional employees expected to be needed in the years 1972, 1973, and 1974.

A sample copy of the questionnaire used to obtain the foregoing data is shown in Appendix B.

Procedure for Data Collection

All of the vocational agriculture teachers in the state were organized into county teams for purposes of data collection. The teachers in each county met and elected a county chairman. The duties of the county chairmen were to coordinate all activities of the other teachers, to work with the study investigator to see that all information and directives were passed on to and received by the individual teachers (data collectors), and to assist the individual teachers in organizing the plan of approach, to receive from each teacher the completed survey forms, check them over and mail them to the investigator.

An unofficial list of agricultural agencies, businesses and industries was prepared by county. This list, the data collection instrument

and a letter of explanation were passed out to each vocational agriculture teacher at the Mid-Winter Vocational Agriculture Teachers Conference. Appendix C contains a copy of the letter of explanation for data collection. The Conference was held January 19, 1971, in Oklahoma City, Oklahoma.

To further assist each teacher in understanding the procedure and instrument, the investigator met with each of the 21 Professional Improvement Groups over the state. The procedure, the purpose, objectives, instrument and importance of the study were presented and explained to the teachers at each meeting and questions regarding the administration of the data-collection instruments were answered.

As an additional aid to the vocational agriculture teachers (data collectors), two letters were prepared by Dr. Francis Tuttle, State Director of Vocational and Technical Education (See Appendix D). One letter requested teachers to cooperate with the State Department of Vocational and Technical Education in completing the study. The other letter was to the owner, manager or official representative of the agency, business or industry interviewed. The letter stated the importance and need for the study. It introduced the teacher as an official representative of the Division of Vocational Agriculture of the State Department of Vocational and Technical Education. It expressed appreciation for the cooperation of the representative.

A news article explaining the importance, purpose and objectives of the study was sent to all county, district and state newspapers. The name of the vocational agriculture teacher in the immediate area was mentioned.

Further, the study was mentioned on several radio and television

stations over the state. Also, a news article was placed in the "Expression," the official bulletin of the State Department of Vocational and Technical Education.

Following the aforementioned efforts to introduce the study, data were collected in each community, town and city in Oklahoma by a designated teacher of vocational agriculture who administered the questionnaire to each off-farm agri-business employer in his area on a personal interview basis. The completed questionnaires were turned over to the county chairman. As the county chairman received and checked each questionnaire, he in turn mailed them to the investigator.

Data were collected by interview with the owner, manager or an official representative of the agency, business or industry. The purpose, objectives and importance of the study were explained. Also, the agency, business or industry representative was made aware of who the vocational agriculture teacher was representing and why. The interview required from five to thirty minutes, depending upon the interest shown by the interviewee. Only two of the identified agencies, businesses or industries were not interviewed. One, a financial institution, indicated the information was not available and the other, a government agency, indicated that the state office prohibited the filling out of questionnaires or surveys of any sort.

Methods of Data Analysis

The Division of Research, Planning and Evaluation of the Oklahoma State Department of Vocational and Technical Education was asked to cooperate on the original analysis of the data. The Occupational and Adult Education Department of Oklahoma State University cooperated in

assuming the responsibility for the keypunching of the data cards. The State Department of Education Computer Center was then used to analyze the data collected for the study. This analysis consisted of frequency counts in the various categories and tabulation of total responses to the respective questions.

Descriptive statistical techniques were used in analyzing the data. Simple frequency tabulations were employed to show job titles, total number of employees, acceptability of 18-year olds, organizational type, employment of high school students, familiarity with the vocational cooperative part-time education program, willingness to employ part-time high school students, additional workers needed now, educational level required and new jobs expected in 1972, 1973, and 1974.

Data were summarized by grouping agencies, businesses and industries into occupational clusters performing similar types of functions. Occupational clusters used were those suggested by the Division of Vocational Agriculture of the Oklahoma State Department of Vocational and Technical Education. These findings of the study are presented in the following chapter.

CHAPTER IV

FINDINGS OF THE STUDY

The primary purpose of this research was to supply manpower information related to vocational agriculture and agri-business which may be used for training program expansion or for redirecting existing programs.

Therefore, the purpose of this chapter is to present the findings of the study in such a way as to enable interested educators to use the information for the establishment of training programs, expansion of training programs, or for the redirection of existing programs. The findings will be presented in what is hoped to be a simple, practical, and usable form. Both the tabular and discussion methods of information analysis will be used.

The first part of the chapter enumerates all of the job titles which were determined by the study from the total population and illustrates the groupings under representative occupational clusters. The remainder of the chapter is divided into sections devoted to the presentation of descriptive data about each of the categories set out in the study.

Data for the study were obtained by interviewing owners, managers or official representatives of 2542 agricultural agencies, businesses or industries in seventy-one counties in the State of Oklahoma. There were 23,306 jobs identified within the 20 types of vocational agriculture and agri-business organizations studied.

Employment Opportunities and Educational Level Desired

There were 218 job titles identified in the study. Specific information received about each job title were: (1) number of people now employed, (2) number of additional workers needed now, (3) number of replacements needed annually, (4) number of employees to be placed in new jobs in 1972, 1973, and 1974, (5) the educational level desired for each job title.

The Study Population

Table I shows the agricultural agency, business or industry by type of organization. The twenty clusters or types of organizations are broad classifications of the primary and/or secondary product and/or service provided by the agency, business or industry.

The organizational types are ranked in the order of the number of employees in each. Each type of organization is figured as to the percentage of the total of all types of organization in the study and the state.

The type of organization ranked number one as to the total number of employees was agricultural finance, insurance and real estate, with agricultural supplies, services and distribution ranking second, and so on down the list with kennels, pets, supplies and services being nineteen and research foundations ranking twenty. Analogous with the number of employees is the percentage of employees in each type of organization.

Job Titles and Selected Characteristics Within the Type of Organization

Tables II through XXI indicate the occupational titles found in each type of organization. The number employed in each job title and

TABLE I

TOTAL NUMBER OF SELECTED AGRI-BUSINESS AGENCIES, BUSINESSES AND INDUSTRIES IN OKLAHOMA BY TYPE OF ORGANIZATION

TYPE OF ORGANIZATION	RANK	NUMBER IN SAMPLE	PERCENTAGE OF TOTAL
Agricultural Building and Construction	4	1870	8.2
Agricultural Finance, Insurance and Real Estate	1	3874	16.6
Agricultural Heavy Machinery and Equipment, Service and Operation	14	519	2.2
Agricultural Machinery and Equipment, Manufacturing and Distribution (Includes Irrigation and Livestock)	8	1253	5.4
Agricultural Supplies, Services, and Distribution	2	3069	13.2
Cotton Manufacturing, Processing and Distribution	11	671	2.9
Dairy Manufacturing, Processing and Distribution	9	910	3.8
Feed and Grain Manufacturing, Processing and Distribution	5	1836	7.9
Food Manufacturing, Processing, Service and Distribution	6	1715	7.4
Forestry Processing and Distribution	10	679	2.9
Fruit and Vegetable Processing and Distribution	13	595	2.5

TABLE I Continued

TYPE OF ORGANIZATION	RANK	NUMBER IN SAMPLE	PERCENTAGE OF TOTAL
Government Services (ASCS, FHA, FLB, SCS, Experiment Stations, Foundations, etc.)	15	509	2.2
Kennels, Pets, Supplies and Service	19	238	1.0
Livestock Industry Service and Distribution	3	2374	10.1
Meat Processing and Distribution	12	610	2.8
Ornamental Horticulture and Floriculture	7	1562	6.6
Poultry Processing, Service and Distribution	18	273	1.2
Recreation and Wildlife	16	372	1.5
Veterinary Supplies, Services and Sales	17	340	1.4
Agricultural Research Foundation	20	37	.1
TOTALS:	23,306		100.0

the total number of employees in each type of organization, as well as the total number of people employed in the State of Oklahoma by type of organization, are given.

A summary of the additional workers needed at the present time by job title and type of organization is indicated. The annual replacements by job title and type of organization are figured to show the overall needs. Further, the new jobs expected by job title and type of organization as indicated by the returns from the individual survey for the years 1972, 1973, and 1974 are shown.

The educational level desired by the employers for the present workers, replacements and all additional workers are indicated by the different levels of education category as follows: grade school, high school, vocational agriculture training, vocational and technical education training, two years of college (college, junior college or area vocational-technical school), and four years of college or university.

Agricultural Buildings and Construction

Table II is a summary of job title data regarding agricultural buildings and construction type organizations. It was found that this type of organization, with 1870 total employees, ranked fourth among the twenty investigated. Indications were that only 35 additional workers were now needed, with 81 new jobs expected to be open in 1972, 64 in 1973, and 64 in 1974.

The educational levels desired by most employers in this type of organization were the vocational and technical education level and the high school level, with the vocational agriculture training level being third. The educational levels needed in most cases to fill the adminis-

trative type jobs were the four years of college, vocational and technical and vocational agriculture training.

Overall, administrative personnel, office personnel, carpenters, metal workers and truck drivers were in the greatest demand in the agricultural building and construction type of organization.

Agricultural Finance, Insurance and Real Estate

As reflected in Table III, the agricultural finance, insurance and real estate type of organization ranked first with 3874 employees. There was a need for 217 additional workers now and the survey indicated a need for 291 employees in 1972, 98 employees in 1973, and 84 employees in 1974. The desired educational level for all employees was predominately at the high school level, with the majority of the administrative jobs considered to require the two year college and four year college level. Also, there was an indication of more available jobs at the administrative and office personnel occupational title. The study indicated more jobs in the area of banking, finance and insurance, rather than real estate. The occupational titles with the largest number of employees were found to be administration, office personnel, insurance agents, cashier, bank and finance clerk, loan officer, and receptionist. The above mentioned occupational titles as indicated by the data may be filled by persons having high school or vocational and technical education training.

Agricultural Heavy Machinery and Equipment, Service, and Operation

As can be determined by inspecting the data presented in Table IV,

TABLE II

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE AGRICULTURAL BUILDINGS AND CONSTRUCTION TYPE OF ORGANIZATION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	288	7	6.00	1	2	5	14	111	41	42	35	45
Office Personnel	245	2	7.00	3	4	2	11	93	22	58	21	40
Agricultural Engineer	10	0	0.20	0	0	0	0	0	0	4	0	6
Architect	5		0.10	0	0	0	0	0	0	0	4	1
Assembler	25		0.50	0	0	0	0	25	0	0	0	0
Block-Brick Layer	5		0.10							5		
Cabinet Maker	26	0	0.52	2	2	2	0	2	7	17	0	0
Carpenter	127	15	2.58	25	9	7	1	26	12	49	21	21
Concrete Worker	26	0	0.52	16	17	17	1	7	2	16	0	0
Consultant	2		0.04					2				
Contractor	2		0.04							2		
Construction Worker	40	0	0.80	0	0	0	0	10	26	4	0	0
Draftsman	10	0	0.20	0	0	0	0	0	0	5	2	3
Electrician	27	0	0.54	0	0	0	0	22	2	3	0	0

TABLE II Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Erector	3	1	0.06	5	0	0	0	0	1	2	0	0
Fence Builder	3	0	0.06	0	0	0	0	0	1	2	0	0
Fieldman	4	0	0.08	0	0	0	0	0	2	2	0	0
Heavy Equipment Operator	32	0	0.64	0	0	0	2	6	12	12	0	0
House Builder	2	2	0.04	2	1	0	0	1	0	1	0	0
Maintenance Man	24	0	0.48	0	0	3	2	1	5	16	0	0
Metal Worker	737	0	14.74	2	4	6	100	150	100	287	100	0
Plumber	21	0	0.42	1	1	1	1	0	10	10	0	0
Prefabricator	1	0	0.02	1	1	1	0	0	0	1	0	0
Roofer	9	0	0.18	1	1	1	4	1	1	3	0	0
Salesman	43	3	0.86	3	3	1	10	18	15	0	0	0
Truck Driver	75	2	1.50	9	5	2	24	26	25	0	0	0
Warehouse Man	31	2	0.62	3	4	1	4	16	10	1	0	0
Welder	47	1	0.94	7	10	15	0	23	22	2	0	0
TOTALS:	1870	35	39.5	81	64	64	173	540	314	544	183	116

TABLE III

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE AGRICULTURAL FINANCE, INSURANCE AND REAL ESTATE

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	679	1	13.58	2	8	6	1	89	93	80	188	228
Office Personnel	523	2	15.69	37	36	35	1	214	50	121	73	64
Agent, Insurance	462	0	9.24	2	4	0	1	42	23	364	17	15
Agent, Real Estate	3		0.06					3				
Analyst, System	6	0	0.12	0	0	0	0	0	0	0	3	3
Analyst, Credit	42	0	0.84	1	2	2	0	25	0	5	9	3
Appraiser, Loan	23		0.46					1	2	4	16	
Appraiser, Real Estate	31	0	0.61	0	0	0	0	3	0	4	10	14
Broker, Finance	2		0.04									2
Broker, Real Estate	19	0	0.38	0	0	0	0	2	0	9	3	5
Cashier	303	4	6.06	2	2	0	1	135	18	112	24	13
Claim Adjuster	35	0	0.70	6	0	0	0	8	7	10	8	2
Clerk	282	204	5.64	208	5	5	1	166	41	15	38	21
Comptroller	15	0	0.30	0	1	0	0	2	5	1	1	6
Computer Programmer	31	1	0.62	3	1	1	0	13	1	12	2	3
Consultant	2		0.04						1	1		

TABLE III Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Data Processor	33	0	0.66	0	3	1	6	15	0	12	3	3
Loan Officer	324	1	6.48	11	6	9	0	127	3	5	124	65
Office Machines Operator	36		0.72					7		25		4
PBX Switch-Board Operator	36	0	0.72	0	0	0	0	22	0	9	4	1
Punch Card Operator	32	0	0.64	2	1	1	0	14	0	15	3	0
Receptionist	102	1	2.02	3	6	6	1	60	5	16	17	3
Safe-Deposit Clerk	52	0	1.04	1	1	0	0	40	0	0	5	7
Salesman, Finance, Insurance	8	0	0.16	0	0	0	0	3	0	1	1	3
Salesman, Securities	5	0	0.10	0	0	0	0	1	0	0	0	4
Serviceman, Business Machines	1	0	0.02	0	0	0	0	1	0	0	0	0
Surveyor	21		0.42								21	
Teller	723	1	14.46	15	20	22	12	295	90	39	236	51
Trainee	43	2	0.86	3	2	2	4	25	4	3	3	4
TOTALS:	3874	217	82.71	291	98	84	22	1312	343	863	809	524

this type of organization with 519 employees ranked fourteenth among the twenty selected organizational clusters. There was indicated a need now for only 35 employees in the area of agricultural heavy machinery and equipment with 57 new jobs expected to open in 1972, 23 in 1973, and 21 in 1974. The largest number of employees and the largest number of available jobs now were in the regular mechanic occupational title. The desirable educational level for this occupational title was in the high school, vocational agriculture training and vocational and technical training.

Agricultural Machinery and Equipment, Manufacturing and Distribution

A summary of the occupational title, employment demands and the desired educational level for the agricultural machinery and equipment manufacturing and distribution is revealed in Table V. This type of organization with 1253 employees ranked eighth among the selected organizations. The occupational titles with the largest number of employees were headed by the administrative personnel and the office personnel, with the assembly man, deliveryman, maintenance man, regular mechanic, equipment operator, partsman, small engine repairman, tractor and implement salesman, welder, yardman, and truck driver running about the same. The desired educational level for these jobs was determined to be predominately the high school level.

Agricultural Supplies, Services, and Distribution

The predominance and importance of the high school level of education are revealed in Table VI for occupations in agricultural supplies, services and distribution. Also, it was found that this type of organ-

TABLE IV

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE AGRICULTURAL HEAVY MACHINERY AND EQUIPMENT, SERVICE AND OPERATION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	123	2	2.46	9	0	0	1	26	3	29	50	14
Office Personnel	54	1	1.62	4	4	2	0	22	0	13	18	1
Agricultural Engineer	5	0	0.10	1	1	0	0	0	0	3	1	1
Bulldozer Operator	33	5	0.66	5	1	0	0	18	15	0	0	0
Contractor	1	0	0.02	0	0	0	0	1	0	0	0	0
Demonstrator	2	0	0.04	0	0	0	0	0	1	1	0	0
Equipment Operator	10	0	0.20	0	0	1	0	4	3	3	0	0
Fieldman	11	0	0.22	0	0	0	0	1	10	0	0	0
Machinist	20	0	0.40	0	0	0	0	1	0	19	0	0
Maintenance Man	12	0	0.24	0	1	0	1	6	4	1	0	0
Mechanic, Diesel	15	3	0.30	5	4	5	0	4	2	9	0	0
Mechanic, Regular	149	14	2.98	17	3	4	22	60	25	42	0	0
Partsman	6	0	0.12	0	0	0	0	2	2	2	0	0
Repairman, Small Engines	7	1	0.14	1	1	0	0	0	0	6	1	0
Salesman	19	3	0.38	2	1	1	0	7	9	1	2	0

TABLE IV Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Set-Up Man	17	4	0.34	7	5	5	0	9	4	4	0	0
Truck Driver	12	1	0.24	1	1	2	2	8	0	2	0	0
Warehouseman	6	0	0.12	1	0	0	2	3	1	0	0	0
Welder	17	1	0.34	4	1	1	2	9	2	4	0	0
TOTALS:	519	35	10.92	57	23	21	30	181	81	139	51	16

TABLE V

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE AGRICULTURAL MACHINERY AND EQUIPMENT, MANUFACTURING AND DISTRIBUTION (INCLUDES IRRIGATION AND LIVESTOCK)

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	219	2	4.38	18	3	1	3	85	34	35	32	30
Office Personnel	122	2	3.66	7	3	4	0	69	3	26	20	4
Agricultural Engineer	6		0.12									6
Assembly Man	70	1	1.40	3	0	0	2	29	15	18	6	0
Buyer	8	0	0.16	0	0	0	0	3	1	3	1	0
Deliveryman	39	1	0.78	0	0		10	14	9	6	0	0
Demonstrator	14	0	0.28	1	1	0	0	0	2	12	0	0
Designer	3	0	0.06	1	0	1	0	0	0	2	0	1
Electrician	6	0	0.12	1	0	0	0	4	0	2	0	0
Fieldman	28	0	0.56	0	0	0	0	20	7	1	0	0
Inspector, Tester	22	4	0.44	7	5	5	1	9	6	6	0	0
Irrigator	13	0	0.26	0	0	0	0	12	1	0	0	0
Lubricant Specialist	21	0	0.42	0	0	0	0	0	15	6	0	0
Maintenance Man	43	1	0.86	7	1	1	3	20	14	6	0	0
Mechanic, Diesel	20	1	0.40	1	1	1	0	0	0	20	0	0
Mechanic, Regular	43	3	0.86	0	1	0	2	22	14	5	0	0

TABLE V Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Operator, Equipment	49	2	0.98	3	0	0	5	17	10	17	0	0
Partsman	73	5	1.46	3	2	1	1	34	15	22	1	0
Repairman, Small Engines	81	9	1.62	15	12	15	1	24	21	28	7	0
Salesman, Tractor-Implement	73	4	1.46	6	1	2	0	25	15	20	13	0
Salesman, Irrigation Equipment	8	1	0.16	3	1	2	0	4	2	2	0	0
Serviceman, Irrigation	12		0.24	0	0	0	0	7	4	1	0	0
Serviceman, Machinery	12	0	0.24	1	1	0	0	3	3	6	0	0
Set-Up Man	10	1	0.20	0	1	0	2	2	4	2	0	0
Tractor Mechanic	25		0.50	0	0	0	0	7	6	12	0	0
Tractor Mechanic Helper	11	1	0.22	0	0	0	3	4	4			
Warehouseman	21	0	0.42	2	0	0	1	14	6	0	0	0
Welder	99	3	1.98	13	4	11	14	41	28	16	0	0
Yardman	41		0.82	0	0	0	1	34	6	0	0	0
Truck Driver	61	0	1.22	1	1	2	20	31	7	3	0	0
TOTALS:	1253	41	4.97	93	38	46	69	534	252	277	80	41

ization with 1715 employees was second among the selected agri-business type of organizations. The administrative personnel which includes managers, supervisors, foremen, and directors, lead the list with the largest number of employees. Office personnel, which includes secretaries, bookkeepers, and accountants, had the second largest number of employees. Equipment operators, exterminators, mechanics, millworkers, processors, salesmen, servicemen, technicians, truck drivers, and warehousemen were occupational titles which demanded high percentage of employees in this type of organization. Additional employees needed at this time are 71 employees, with 297 new jobs expected in 1972, 1973, and 1974.

The desired educational level for the administration of this type of organization covered a wide educational range, from high school graduates to four year college graduates, with the high school graduates having the highest percentage. The other mentioned service type occupations was predominately at the high school level of education.

Cotton Manufacturing, Processing, and Distribution

The educational level which employers desired that their employees possess along with other details concerning occupation in the cotton industry are shown in Table VII. This type of organization with 671 employees ranked eleventh among the selected agri-business types of organization. Administration personnel, office personnel, equipment operators, pressmen, and truck drivers were the occupational titles with the highest number of employees and the employers filling out the survey stated that the high school level of education was adequate for performing these occupations. There were 431 employees in these occupational titles out of the total 671 employees of all occupational titles in this

TABLE VI

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE AGRICULTURAL SUPPLIES, SERVICES, AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	787	7	15.74	12	15	14	11	204	167	129	156	120
Office Personnel	531	4	15.93	6	9	7	5	293	51	71	73	38
Analyst, Seed	9	0	0.18	0	1	0	0	1	4	1	1	2
Applicator	25	1	0.50	2	2	1	2	13	10	0	0	0
Broker	3		0.06	0	0	0	0	3	0	0	0	0
Bulk Distributor	53	0	1.06	3	2	2	12	29	12	0	0	0
Buyer	20	0	0.40	0	1	0	0	7	8	2	2	1
Cleaner, Seed	23	0	0.46	5	7	8	1	13	4	0	5	0
Commissionman, L. S.	1		0.02	0	0	0	0	0	1	0	0	0
Consultant	3	1	0.06	0	0	0	0	0	1	0	1	1
Contractor, Equipment	2		0.04	0	0	0	0	2	0	0	0	0
Demonstrator-Display	4	0	0.08	0	1	1	0	2	1	0	0	1
Equipment, Operator	151	3	3.02	3	3	3	14	83	36	18	0	0
Exterminator	116	13	2.32	3	4	4	6	81	16	1	12	0
Fieldman, Associate	6	0	0.12	1	0	1	0	1	0	0	2	3
Fieldman, Supplies	7	1	0.14	1	1	1	1	4	2	0	0	0
Grader	10	0	0.20	0	0	0	0	9	1	0	0	0

TABLE VI Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Grain Drier	4	0	0.08	0	1	0	0	2	2	0	0	0
Mechanics	101	6	2.02	10	4	7	10	51	8	28	3	1
Mill Worker	196	3	3.92	2	2	2	43	129	13	11	0	0
Mixer, Feed-Fertilizer	50	0	1.00	1	0	0	0	29	21	0	0	0
Operator, Feedmill	44	1	0.88	0	2	0	0	18	23	3	0	0
Processor	118	0	2.36	1	0	1	0	8	77	33	0	0
Salesman	221	9	4.42	17	11	6	17	137	29	9	15	14
Serviceman	142	5	2.84	6	4	2	8	81	39	13	1	0
Technician	88	2	1.76	20	3	12	1	8	8	43	20	8
Truck Driver	161	5	3.22	6	4	2	19	117	17	8	0	0
Warehouseman	166	8	3.32	12	15	18	27	87	37	15	0	0
Welder	27	2	0.54	2	1	0	1	4	15	6	1	0
TOTALS:	3069	71	66.69	113	93	91	178	1416	603	391	292	186

type of organization that were listed at the high school level of education.

There were 25 employees needed now and 135 new jobs expected in 1972, 1973, and 1974.

Dairy Manufacturing, Processing and Distribution

From the data provided in Table VIII, it may be seen that 22 occupational titles were identified in those organization involved in dairy manufacturing, processing, and distribution.

This type of organization with 910 employees ranked nineth among the selected agri-business type of organizations. The deliveryman occupational title ranked highest in the number of employees with one-third of the total employees in this organizational cluster. The high school graduate was in demand with 713 employees out of the total 910 employees. There is a need for 12 additional employees now and 79 new jobs were indicated to be needed in 1972, 1973, and 1974.

Feed and Grain Manufacturing, Processing, and Distribution

Based on the data in Table IX, the feed and grain manufacturing type of organization showed annual replacement to be approximately two percent per year.

This type of organization with 1836 employees ranked fifth among the selected agri-business types of organizations. The administration and office personnel have a total of 363 employees. The manufacturing, processing, and distribution type occupations had a total of 1473 employees, with delivery men, equipment operators, elevator workers, truck drivers, and warehousemen having the largest number of employees. There

TABLE VII

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE COTTON MANUFACTURING, PROCESSING AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	190	7	3.80	8	9	10	4	102	35	10	16	23
Office Personnel	91	1	2.73	4	6	4	10	53	4	5	17	2
Broker	12	0	0.24	1	1	0	0	4	2	1	4	1
Deliveryman	27	2	0.44	2	3	2	1	17	3	1	0	0
Demonstrator	1	0	0.02	0	0	0	0	1	0	0	0	0
Equipment Operator	72	3	1.44	3	3	2	5	60	5	2	0	0
Fieldman	11	0	0.22	1	1	0	2	4	4	1	0	0
Ginner	31	3	0.62	3	3	3	7	20	1	3	0	0
Maintenance Man	1		0.02					1		0	0	0
Mechanic	30	0	0.60	8	8	13	1	17	12	0	0	0
Pressman	70	2	1.40	1	1	1	4	58	7	1	0	0
Processor	10	0	0.20	2	0	2	0	7	3	0	0	0
Truck Driver	80	2	1.60	8	8	9	8	64	7	1	0	0
Warehouseman	16	0	0.32	0	0	0	2	14	0	0	0	0
Welder	14	2	0.28	2	0	0	0	2	10	2	0	0
Yardman	20	3	0.40	1	1	1	8	12	0	0	0	0
TOTALS:	671	25	14.33	44	44	47	52	436	93	27	37	26

TABLE VIII

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE DAIRY MANUFACTURING, PROCESSING AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	108	0	2.16	3	2	2	0	76	4	2	11	15
Office Personnel	118	4	3.54	4	7	5	8	99	4	3	3	1
Batch Freezer	8	0	0.16	0	0	0	0	1	7	0	0	0
Broker	30	0	2.60	3	1	2	0	17	6	0	0	7
Butter Maker	28	2	0.56	2	8	2	8	18	1	1	0	0
Buyer	14	0	0.28	2	3	4	0	7	3	0	0	4
Cheese Maker	5	0	0.10	0	0	0	0	4	1	0	0	0
Cottage Cheese Maker	3		0.06					3				
Deliveryman	319	4	6.38	7	12	6	19	274	15	11	0	0
Demonstrator	1	0	0.02	0	0	0	0	1	0	0	0	0
Equipment Operator	43		0.86				3	40				
Fieldman	8		0.16					5			3	
Freezerman	4		0.04					0		4		
Maintenance Man	19	0	0.38	0	0	0	3	16	0	0	0	0
Processor	24	0	0.48	2	3	4	1	18	1	4	0	0
Product Technician	7	0	0.14	0	0	0	0	4	1	0	0	2

TABLE VIII Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Receiver, Milk	7		0.14					4	3			
Salesman, Supplies	20	2	0.40	6	5	6	0	17	2	1	0	0
Shipper	16	0	0.32	0	0	0	8	4	4	0	0	0
Tester	11	0	0.22	0	0	0	0	2	7	2	0	0
Truck Driver	76	0	1.52	3	2	1	2	72	2	0	0	0
Warehouseman	41	0	0.82	4	10	6	4	31	6	0	0	0
TOTALS:	910	12	11.46	36	55	38	56	713	67	28	17	29

were 25 workers needed now and 138 new jobs expected in the next three years.

The desirable educational level for the administrative and office type of occupations covered all levels, with the high school graduate having the largest number of employees. The other occupational titles also indicate that the high school graduate was preferred by approximately 50 percent of those surveyed.

Food Manufacturing, Processing, Service, and Distribution

The findings relative to occupations in the food manufacturing and processing type of organization are described in Table X.

This type of organization with 1715 employees ranked sixth among the selected agri-business types of organizations. The food checker occupational title contained over one-third of the total employees in this organizational cluster, with the administrative and office personnel ranking second. Other occupations ranking high were cannery, workers, delivery men, packaging workers, processors, warehousemen, and salespersons.

The desired educational level was overwhelmingly in favor of the high school graduate.

Forestry Processing and Distribution

As reflected in Table XI, many of the respondents indicated that they do hire individuals having only a grade school education.

This type of organization with 679 employees ranked tenth among the selected agri-business types of organizations. The occupational title of tractor operator had approximately one-third of the total employees

TABLE IX

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE FEED AND GRAIN MANUFACTURING, PROCESSING AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	227	3	4.54	3	3	2	3	76	56	26	32	34
Office Personnel	136	4	4.08	2	4	3	3	80	18	6	17	2
Analyst, Seed	11	0	0.22	0	0	0	0	1	0	10	0	0
Buyer	75	0	1.50	0	0	0	0	11	0	13	0	1
Contractor, Hauling	23	0	0.46	1	0	0	0	1	2	20	0	0
Consultant	11	0	0.22	0	0	0	0	0	0	0	10	1
Custom Feed Mill Operator	52	0	1.04	1	1	1	18	20	12	2	0	0
Deliveryman	83	4	1.66	7	12	6	20	51	12	0	0	0
Equipment Operator	83	0	1.66	4	5	6	10	50	20	3	0	0
Elevator Worker	121	5	2.42	2	0	0	16	90	14	1	0	0
Feed Mixer	46	2	0.92	2	0	0	7	15	18	6	0	0
Fieldman	30	0	0.60	0	0	0	0	12	4	14	0	0
Floorman	50		1.00	2	1	1	12	15	11	12	0	0
Grader	137	2	2.74	7	8	9	3	100	13	11	10	0
Grinder	42		0.84	0	0	0	7	20	15	0	0	0

TABLE IX Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Mechanic	110	0	2.20	0	0	2	21	66	21	0	2	0
Mill Operator	85	0	1.60	5	3	3	17	49	19	0	0	0
Mixer	31		0.62	0	0	0	5	16	7	3	0	0
Nutritionist	14	1	0.20	0	1	0	0	1	1	0	0	12
Salesman	116	1	2.32	4	5	4	17	67	18	12	0	2
Seed Cleaner	23	0	0.46	0	0	0	10	13	0	0	0	0
Store Worker	45	0	0.90	0	0	0	11	23	6	5	0	0
Tester	11		0.22	0	0	0	0	0	1	10	0	0
Truck Driver	167	1	3.34	5	3	2	36	119	12	0	0	0
Warehouseman	127	2	2.54	3	3	2	19	85	11	12	0	0
Utilityman	30	0	0.60	0	0	0	8	11	11	0	0	0
TOTALS:	1836	25	38.08	48	49	41	253	992	302	166	71	52

TABLE X

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE FOOD MANUFACTURING, PROCESSING, SERVICE AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	200	1	4.00	5	5	7	0	130	9	5	16	40
Office Personnel	151	2	4.53	2	3	3	0	94	9	6	39	3
Broker	3		0.06								1	2
Buyer, Produce	6		0.12					2	1	1	2	
Cannery Worker	57		1.14				57					
Caterer	27		0.54				3	19	5			
Checker, Food	613	0	12.26	5	4	5	19	586	7	1	0	0
Chef	40	0	0.80	2	3	3	0	29	3	2	5	1
Cook	7	0	0.14	0	0	0	4	1	0	2	0	0
Deliveryman	61		1.22					58	3			
Demonstrator	5	0	0.10	0	0	0	0	2	3	0	0	0
Equipment Operator	31		0.62				17	10	4			
Fieldman	32	0	0.64	1	0	1	0	22	9	0	0	1
Freezing Worker	24	0	0.48	2	3	1	12	8	3	1	0	0
Grader	3		0.06							3		
Maintenance Man	35	0	0.70	0	2	1	10	15	5	4	1	0
Packaging Worker	52		1.04					52				

TABLE X Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Preparation Worker	6		0.12					6				
Processor	62	0	1.24	0	0	0	8	48	3	3	0	0
Pickler	3	0	0.06	0	0	0	2	1	0	0	0	0
Receiver	10	0	0.20	2	1	1	0	8	1	1	0	0
Salesperson	51	0	1.02	2	1	1	0	46	4	1	0	0
Salesman, Driver	15		0.30				1	4	9	1		
Salesman, Food Products	4		0.08							4		
Sorter, Produce	14	0	0.28	0	0	1	7	7	5	0	0	0
Truck Driver	38	1	0.76	1	1	1	8	17	13	0	0	0
Warehouseman	165		3.30				57	108				
TOTALS:	1715	4	35.81	22	23	25	200	1273	96	35	64	47

in this organizational cluster. Carpenters, contractors, and log sawyers had one-third of the employees, with the other one-third of the employees represented by the other 26 occupational titles.

There were only eight additional workers needed now and only 25 new jobs expected in 1972, 1973, and 1974, as indicated by the survey. In this type of organization the educational level most desired by the employers was the high school graduates.

Fruit and Vegetable Processing and Distribution

The additional workers needed now in the fruit and vegetable processing and distribution cluster were low compared to other types of organizations, as shown by the data in Table XII. This type of organization with 595 employees ranked thirteenth among the selected agri-business types of organizations. Twenty-six percent of the employees were represented by the packaging worker occupational title. Administrative and office personnel, along with delivery men, equipment operators, and warehousemen made up fifty-four percent of the employees.

The additional workers needed now, as indicated by the survey, were found to be only five. New jobs expected in 1972 was 29, in 1973 was 69, and in 1974 was 32.

The educational level desired by most employers was high school, with the grade school level being the second highest preference.

Government Services

There were only sixteen occupational titles shown for government services, as indicated in Table XIII. This type of organization with 509 employees ranked fifteenth among the selected agri-business types of

TABLE XI

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE FORESTRY PROCESSING AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	44	0	0.88	0	0	0	8	15	6	6	5	4
Office Personnel	60	0	1.80	1	1	2	1	37	1	8	11	2
Buyer, Lumber-Log	6	0	0.12	0	0	1	1	4	1	0	0	0
Cabinet Maker	2		0.04					2				
Carpenter	84	0	1.68	0	2	4	10	61	11	2	0	0
Contractor	62	0	1.24	0	0	0	50	12	0	0	0	0
Cruiser	1		0.02					1				
Deliveryman	19	3	0.38	1	0	0	11	5	2	1	0	0
Draftsman	2		0.04							2		
Equipment Operator	16	0	0.38	3	0	0	1	4	6	5	0	0
Fieldman	1	0	0.02	0	0	0	0	0	0	1	0	0
Forester	2	0	0.04	0	0	0	0	1	0	0	0	1
Furniture Maker	1		0.02						1			
Grader, Log	2	0	0.04	0	0	0	2	0	0	0	0	0
Grader, Lumber	2	0	0.04	0	0	0	0	2	0	0	0	0
House Builder	4	0	0.08	0	0	0	0	1	0	3	0	0

TABLE XI Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Inspector	2	0	0.04	0	0	0	0	2	0	0	0	0
Lumber-Pole Treater	10	0	0.20	2	1	1	2	7	1	0	0	0
Maintenance Man	5	0	0.10							5		
Marker, Lob	1		0.02				0	1				
Mechanic, Equipment	19	0	0.38	2	0	0	3	7	0	9	0	0
Millman	15	2	0.30	0	0	0	4	1	0	10	0	0
Salesman	8	0	0.16	0	0	0	0	3	1	4	0	0
Scaler, Log	3	0	0.06	0	0	0	1	2	0	0	0	0
Sawyer, Log	56	0	1.12	0	0	0	1	55	0	0	0	0
Tractor Operator	211	2	4.22	1	0	0	13	193	5	0	0	0
Truck Driver	22	1	0.44	0	0	0	6	14	2	0	0	0
Warehouseman	5	0	0.10	1	1	0	0	4	0	1	0	0
Welder	5	0	0.10	1	0	0	4	1	0	0	0	0
Yardman	9	0	0.18	0	0	0	7	2	0	0	0	0
TOTALS:	679	8	14.18	12	5	8	125	437	37	57	16	7

TABLE XII

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE FRUIT AND VEGETABLE PROCESSING AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	102	0	2.04	3	4	4	21	34	17	19	6	5
Office Personnel	79	1	2.37	2	3	3	12	45	1	12	7	2
Broker	1	0	0.02									1
Buyer	7	0	0.14					1	3	1		2
Dehydrator	13	0	0.26	3	3	4	1	12	0	0	0	0
Deliveryman	73	2	1.46	7	12	6	4	69	0	0	0	0
Drier	6	0	0.12	0	0	0	1	4	1	0	0	0
Equipment Operator	20	0	0.40	5	6	6	4	13	3	0	0	0
Fieldman	1	0	0.02	0	0	0	0	0	1	0	0	0
Freezerman	21	1	0.42	2	8	2	2	16	2	1	0	0
Fruit-Buying Grader	6	0	0.12	0	0	0	0	0	5	1	0	0
Grader	3	0	0.06	0	0	0	0	0	0	0	1	2
Inspector	11	1	0.22	1	0	0	0	2	2	6	0	1
Maintenance Man	3		0.06	0	0	0	0	3	0	0	0	0
Packaging Man	158	0	3.16	2	23	1	61	87	1	9	0	0
Pickler	3	0	0.06	0	0	0	0	3	0	0	0	0
Preparation Man	1	0	0.02	0	0	0	0	1	0	0	0	0

TABLE XII Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Processor	4	0	0.08	0	0	0	0	4	0	0	0	0
Receiver	2	0	0.04	0	0	0	0	2	0	0	0	0
Salesman	16	0	0.38	0	0	0	0	3	8	0	5	0
Shipper	2	0	0.04	0	0	0	0	0	2	0	0	0
Sorter, Procue	8	0	0.16	0	0	0	0	3	5	0	0	0
Truck Driver	1		0.02					1				
Warehouseman	54	0	1.08	4	10	6	3	49	1	1	0	0
TOTALS:	595	5	12.69	29	69	32	109	352	52	50	19	13

organizations. The office personnel occupational titles had 237 employees or 46 percent of the total employees. The occupational titles of soil conservationist, fieldmen, and truck drivers employed 116 of the total employment of this type of organization.

The preferred educational level of the office personnel was for high school graduates. The two year and four year college education ranked next in preference.

Kennels, Pets, Supplies and Service

Table XIV is a summary of occupational title data regarding kennels, pets, supplies and service type of organization. It was revealed that this type of organization with 238 employees ranked nineteenth among the selected agri-business types of organizations. The occupational title of deliveryman made up the largest number of employees, with the office personnel and kennelman ranking second.

There were only four additional employees needed, and there were only 36 new jobs expected in the next three years.

The educational level desired most by the owners, managers and/or official representatives was the high school level, with the grade school, vocational agriculture, and two years of college education ranking about even.

Livestock Industry Service and Distribution

In Table XV, the highest number of expected new jobs for the next three years was in the equipment operator occupational title.

This type of organization with 2374 employees ranked third among the

TABLE XIII

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE GOVERNMENT SERVICES
(ASCS, FHA, FLB, SCS, EXPERIMENTAL STATIONS, FOUNDATIONS, ETC.)

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF REPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	82	1	1.64	0	1	0	0	9	1	3	11	58
Office Personnel	237	1	4.74	2	2	1	61	147	0	16	8	5
Appraiser	2	0	0.04	1	0	0	0	1	0	0	1	0
Airplane Pilot	2		0.04								2	
Caretaker, Camp-Park	11	0	0.22	0	0	0	4	7	0	0	0	0
Contractor	1	0	0.02	0	0	0	0	0	0	0	0	1
Draftsman	1	0	0.02	0	0	0	0	1	0	0	0	0
Equipment Operator	17	0	0.34	1	0	0	1	13	3	0	0	0
Fieldman	37	1	0.74	1	0	0	0	6	30	1	0	0
Flagman	3	1	0.06	1	0	0	0	1	2	0	0	0
Inspector, Industrial Waste	1	0	0.02	0	0	0	0	1	0	0	0	0
Soil Conservationist	47	1	0.94	2	1	1	0	4	1	0	21	21
Surveyor	16	1	0.32	1	0	0	0	0	0	0	4	12
Conservation Technician	8		0.16						5	3		
Truck Driver	32	0	0.64	0	0	0	1	30	1	0	0	0
Warehouseman	12	0	0.24	0	0	0	4	8	0	0	0	0
TOTALS:	509	6	10.18	9	4	2	71	228	43	23	47	97

TABLE XIV

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE KENNELS, PETS, SUPPLIES AND SERVICE

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF REPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	12	0	0.24	0	0	0	0	3	8	0	1	0
Office Personnel	52	0	1.56	2	2	2	0	42	0	0	10	0
Caretaker	2	0	0.04	0	0	0	0	1	1	0	0	0
Deliveryman	77	2	1.54	9	7	6	6	54	10	0	0	7
Kennelman	35	0	0.70	1	2	1	4	23	6	1	1	0
Salesperson	3	1	0.06	0	0	0	0	2	1	0	0	0
Technician	12	1	0.24	0	0	0	0	0	0	0	10	2
Trainer	5		0.10				1	3	1			
Truck Driver	40	0	0.80	1	2	1	17	23	0	0	0	0
TOTALS:	238	4	5.28	13	13	10	28	151	27	1	22	9

selected agri-business type of organization. Administration and office personnel had the most employees, as indicated by the survey. The occupational titles of equipment operator, feed lot worker, nutritionist, truck driver, weighmaster, and yardman had the third highest number of employees of any occupational titles.

As indicated by the survey, there was a need for 39 employees now and a total 397 new jobs would be available in the next three years.

The educational levels desired by most employers were the high school level and the vocational agriculture training level.

Meat Processing and Distribution

The data summarized in Table XVI indicated that new jobs for the years 1972, 1973, and 1974 would be a total of only seven. This type of organization with 610 employees ranked twelfth among the selected agri-business type of organizations. The administration occupational titles had the most employees, with butcher and meat cutter ranking next. The poultry dresser, salesman, truck driver, warehouseman, and office personnel required a comparatively higher number of employees than the other occupational titles.

The survey indicated only nine additional workers were needed now and only 87 over the next three years.

The high school level of education was desired by over 67 percent of the employers for the meat processing and distribution type of organization.

Ornamental Horticulture and Floriculture

The annual replacements for office personnel in the ornamental

TABLE XV

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE LIVESTOCK INDUSTRY SERVICE AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	301	3	6.02	3	3	2	2	172	58	6	22	41
Office Personnel	401	2	12.03	19	12	9	14	221	64	47	47	8
Applicator	7	1	0.14	3	1	1	2	3	1	1	0	0
Artificial Breeding Technician	16	0	0.32	2	1	1	0	1	1	4	4	6
Auctioneer	60	0	1.20	1	1	1	13	37	4	6	0	0
Broker	43	0	0.86	4	4	0	1	21	3	11	2	5
Commissionman	65	0	1.30	0	0	0	0	23	12	10	10	10
Contractor	12	0	0.24	0	0	0	0	3	0	7	1	1
Demonstrator	1	0	0.02	0	0	0	0	1	0	0	0	0
Equestrian	1	0	0.02	0	0	0	0	1	0	0	0	0
Equipment Operator	178	9	3.56	28	25	25	3	59	109	7	0	0
Exterminator	16	0	0.32	2	4	3	0	3	12	1	0	0
Farer (Horse Shoer)	2	0	0.04	0	0	0	0	2	0	0	0	0
Feed Lot Worker	120	6	2.40	13	6	8	8	90	21	1	0	0
Fieldman	53	2	1.06	9	13	23	4	10	14	0	10	15
Grader	56	2	1.12	9	6	6	2	41	7	0	0	6

TABLE XV Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Herdsman	42	2	0.84	9	7	6	14	21	5	0	1	1
Horse Trainer	7	1	0.14	2	0	1	1	2	2	0	1	1
Inspector	30	0	0.60	6	6	0	0	4	3	0	10	13
Lab Technician	3	0	0.06	1	0	0	0	1	0	0	0	2
Livestock Caretaker	15		0.30						15			
Machinery Repairman	9	0	0.18	2	1	1	0	5	2	2	0	0
Nutritionist	83	3	1.66	1	0	1	0	22	12	9	16	24
Reporter	1	0	0.02	0	0	0	0	0	1	0	0	0
Salesman	379	1	7.58	17	23	19	46	127	150	0	17	39
Sorter	80	0	1.60	3	3	3	34	39	7	0	0	0
Stockyards Employee	49	0	0.98	0	0	0	9	40	0	0	0	0
Truck Driver	89	5	1.78	4	3	3	36	47	6	0	0	0
Warehouseman	52	2	1.04	2	2	2	4	46	1	1	0	0
Weighmaster	86	2	1.72	5	6	6	4	63	13	1	1	4
Yardman	117	0	2.34	2	1	1	3	100	14	0	0	0
TOTALS:	2374	39	51.49	147	128	122	200	1205	537	114	142	176

TABLE XVI

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE MEAT PROCESSING AND DISTRIBUTING

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS 72	73	73	NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	114	2	2.28	2	1	1	4	65	11	6	18	10
Office Personnel	50	1	1.50	1	1	0	5	42	0	3	0	0
Butcher	106	5	2.12	11	13	5	14	68	23	1	0	0
Buyer	8	0	0.16	0	0	0	0	2	1	1	4	0
Cold Storage Worker	14	0	0.28	2	2	1	1	11	1	0	0	1
Deliveryman	18	0	0.36				7	11				
Grader	2	0	0.04	1	0	0	0	1	0	0	0	1
Inspector	7	0	0.14	0	0	0	0	0	0	2	4	1
Locker Plant Worker	4	0	0.08	0	0	0	0	4	0	0	0	0
Machine Operator	16	0	0.32	0	0	2	0	8	6	0	0	2
Maintenance Man	6	0	0.12					2	4			
Meat Cutter	69	0	1.38	6	0	1	5	45	16	2	1	0
Poultry Dresser	43	1	0.86	6	0	1	0	38	5	0	0	0
Processor	12	0	0.24					12				
Salesman	35	0	0.70	0	0	0	8	22	0	0	2	3

TABLE XVI Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Sausage-Meat Trimmer	5	0	0.10	0	0	0	0	9	0	1	0	0
Slaughterhouse	20	0	0.40	0	10	0	2	10	3	0	0	0
Truck Driver	43	0	0.46	1	0	1	4	36	2	1	0	0
Warehouseman	36	0	0.72	5	2	2	7	25	4	0	0	0
TOTALS:	610	9	12.70	35	29	14	59	411	76	17	29	18

horticulture type of organization were indicated to be 7.05 percent, as shown by the data in Table XVII. This type of organization with 1562 employees ranked seventh among the selected agri-business organizations.

The administration and office personnel occupational titles contain the most employees. The occupational title of floral designer was high, next to the office personnel category in the number of employees. Equipment operators, greenhousemen, nurserymen, equipment salesmen, servicemen and truck drivers had a comparatively high number of employees.

There was indicated a need for 64 employees now and 101 over the next three years.

The high school level of education was overwhelmingly desired for these occupations, as indicated by the employers in this survey.

Poultry Processing, Service, and Distribution

Forty of the administration personnel employed in the poultry processing and distribution type of organization indicated a high school level of education. This is shown in Table XVIII. This type of organization with 273 total employees ranked eighteenth among the selected agri-business type of organization.

There were only 15 occupational titles identifed within this type of organization with the administration and office personnel occupational title indicating the most employees. Egg candlers, equipment operators, poultry debeakers and truck drivers were well represented by the number of employees in each occupational title.

There were only five additional workers needed at this time, while a total of 64 new jobs was indicated for the years 1972, 1973, and 1974. Ninety-one percent of the employers indicated that the high school level

TABLE XVII

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE ORNAMENTAL HORTICULTURE AND FLORICULTURE

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	240	0	4.80	7	5	4	5	134	22	25	25	29
Office Personnel	235	6	7.05	5	9	6	28	186	8	8	2	3
Applicator	18	1	0.36	2	2	0	1	17	0	0	0	0
Buyer	18	0	0.36	1	2	0	0	13	2	1	1	1
Deliveryman	33	2	0.99	2	3	2	15	14	2	1	1	0
Demonstrator	4	0	0.08	0	0	0	0	2	2	0	0	0
Displayer	15	1	0.30	2	3	2	0	12	2	1	0	0
Draftsman, Landscape	10	1	0.20	0	0	0	0	0	4	2	3	1
Duster, Sprayer	5	0	0.10	1	0	0	0	1	4	0	0	0
Equipment Operator	85	3	1.70	3	4	3	2	60	15	8	0	0
Floral Designer	215	7	4.30	5	8	6	2	159	8	42	4	0
Fumigator, Orchard	1	0	0.02		0	0	0	1	0	0	0	0
Garden Center Worker	12		0.24				4	8				
Greenhouseman	92	8	1.84	2	2	3	6	68	7	9	1	1
Grounds Keeper	4	0	0.08	0	0	1	0	0	1	3	0	0
Landscape Architect	5	1	0.10	0	0	0	0	0	0	1	0	4
Landscape Consultant	7	3	0.14	0	0	0	1	1	0	2	3	0

TABLE XVII Continued

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Nurseryman	90	10	1.80	7	10	2	3	76	6	5	0	0
Nursery Worker	16	0	0.32	0	0	0	0	8	8	0	0	0
Propagationist	3	0	0.09	0	0	0	0	0	0	3	0	0
Pruner	10	0	0.30	0	1	0	1	6	2	1	0	0
Salesman, Equipment	142	8	2.84	17	10	6	1	103	14	19	2	3
Salesman, Supplies	33	4	0.66	2	2	3	0	28	4	1	0	0
Salesperson	18		0.36				4	10	2	2		
Serviceman	91	4	1.82	5	3	2	4	75	12	0	0	0
Shipper	6	0	0.12	0	0	0	0	3	3	0	0	0
Tree Surgeon	6	0	0.12	0	0	0	1	4	0	0	1	0
Truck Driver	117	5	2.34	0	0	0	26	83	7	1	0	0
Warehouseman	31	0	0.62	1	1	2	4	26	1	0	0	0
TOTALS:	1562	64	33.59	62	65	42	108	1098	136	135	43	42

of education was desired for the poultry processing, service and distribution type of agri-business organization.

Recreation and Wildlife

Table XIX identifies 15 different occupational titles in the recreation and wildlife type of organization. This type of organization with 372 employees ranks sixteenth among the selected agri-business type of organization.

The administration occupational title had the largest number of employees, with office personnel second. The occupational titles of animal keeper, animal caretaker, game farm worker, groundskeeper, kennelman, maintenance man, parks worker, and truck driver were comparatively important as to the number of employees. Unexpectedly, the survey indicated no additional workers needed now and only two new jobs in the next three years.

The desired educational level was high school, with vocational agriculture training second.

Veterinary Supplies, Services and Sales

Table XX illustrates that 30 percent of the employees of the veterinary supplies, services and sales type of organization had a preference for at least four year college educational level. This type of organization with 340 employees ranked seventeenth among the selected agri-business type of organization.

The administration occupational title had the most employees and the desired educational level for this title was four years of college. Officer personnel and animal caretakers were the next most impor-

TABLE XVIII

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE POULTRY PROCESSING, SERVICE AND DISTRIBUTION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	81	2	1.62	3	1	2	1	40	12	16	4	8
Office Personnel	50	1	1.00	1	5	2	7	33	0	2	8	0
Chicken Sexer	1	0	0.02	0	0	0	0	1	0	0	0	0
Consultant-Adviser	3		0.06					3				
Deliveryman	7		0.14					7				
Egg Candler	10		0.20	1	1	2		10				
Equipment Operator	18	0	0.36	5	6	6	3	15	0	0	0	0
Inspector	1		0.02								1	
Killer	25	1	0.50	6	0	1	1	22	2	0	0	0
Layer House Worker	23		0.46					23				
Mechanic	1		0.02						1			
Poultry Debeakar	10	0	0.20	0	0	0	0	10	0	0	0	0
Poultryman, Meat	7	0	0.14	0	0	0	0	1	6	0	0	0
Truck Driver	27	1	0.54	1	0	1	6	20	0	1	0	0
Warehouseman	9		0.18					9				
TOTALS:	273	5	5.46	17	13	14	18	194	21	19	13	8

TABLE XIX

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE RECREATION AND WILDLIFE

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	86	0	1.72	0	0	0	0	24	4	13	22	23
Office Personnel	48	0	1.44	0	0	0	10	26	2	0	10	0
Animal Keeper	17	0	0.34	0	0	0	5	12	0	0	0	0
Attendant	13	0	0.26	0	0	0	0	13	0	0	0	0
Caretaker, Animal	22	0	0.44	0	0	0	0	12	10	0	0	0
Carpenter	6	0	0.12	0	0	0	0	6	0	0	0	0
Game Farm Worker	24		0.48	0	0	0	0	14	10	0	0	0
Gamekeeper	8		0.16				5	2	1			
Groundskeeper	38		0.76					22	15	1		
Kennelman	25		0.50	0	1	1	10	13	2			
Maintenance Man	20		0.40				5	12	1	2		
Park Caretaker	13		0.26					7	6			
Park Worker	18		0.36				10	6	2			
Recreation Worker	12		0.24				10	1	1			
Truck Driver	22		0.44				5	15	2			
TOTALS:	372	0	7.92	0	1	1	60	185	56	16	32	23

tant occupational titles according to the number of employees. The desirable educational level, as indicated by the surveyed employees for these two occupations, was vocational agriculture training.

There were ten additional workers needed now and 58 new jobs would be needed within the next three years.

Agricultural Research Foundation

The data in Table XXI indicated a limited participation in the area of agricultural research foundations in Oklahoma. This type of organization with 37 employees ranks twentieth among the selected agri-business type of organizations.

The occupational title of farm or ranch hand indicated the largest number of employees with maintenance man next. The area of agricultural specialists is pronounced with this type of organization. The agricultural specialist all have a four year college degree with the other occupations requiring a high school education.

Number of Employees by Type of Organization by County, District and State

Tables XXII through XXVII summarize the number of employees by each type of organization in each county, each vocational agriculture supervisory district and the state.

Southeast District

Table XXII summarizes the southeast supervisory district of vocational agriculture. The district is composed of 15 counties. There were 4005 employees in the 20 different types of organizations within the 15 county areas. The five largest type of organizations as to the number

TABLE XX

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE VETERINARY SUPPLIES, SERVICES AND SALES

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS			NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED					
				72	73	74	Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Administration	122	4	2.44	5	2	1	0	8	9	10	6	89
Office Personnel	86	1	2.58	4	7	4	1	10	66	3	2	4
Animal Caretaker	61	2	1.22	7	9	9	7	15	26	1	3	9
Artificial Breeding Technician	5	0	0.10	0	0	0	0	1	4	0	0	0
Assistant, Vet	4	0	0.08	0	0	0	0	2	2	0	0	0
Attendant	6	0	0.12	0	0	0	0	1	5	0	0	0
Deliveryman	22	2	0.44	2	2	2	7	18	1	1	0	0
Demonstrator	1	0	0.02	0	0	0	0	1	0	0	0	0
Groomer	1	0	0.02									
Horse Shoer	1	0	0.02	0	0	0	0	0	1	0	0	0
Kennelman	3	0	0.06						3			
Lab Technician	2	0	0.04	0	0	0	0	0	2	0	1	0
Salesman, Supplies	24	1	0.48	1	1	2	0	15	2	6	0	1
Technician	1	0	0.02	0	0	0	0	0	0	1	0	0
Truck Driver	1	0	0.02	0	0	0	0	1	0	0	0	0
TOTALS:	340	10	7.66	19	21	18	10	72	121	22	12	103

TABLE XXI

JOB TITLES AND SELECTED CHARACTERISTICS WITHIN THE AGRICULTURAL RESEARCH FOUNDATION

OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW	ADDITIONAL WORKERS NEEDED NOW	ANNUAL REPLACEMENTS	NUMBER OF NEW JOBS 72	73	74	NUMBER OF RESPONSES BY EDUCATIONAL LEVEL DESIRED Grade School	High School	Vo-Ag Training	Voc-Tech Training	Two Year College	Four Year College
Manager	2		0.04									2
Supervisor	1		0.03									1
Foreman	3		0.09					3				
Office Personnel	2		0.04					1		1		
Crops and Pasture Specialist	1		0.02									1
Forestry Specialist	1		0.02									1
Horticulture Specialist	1		0.02									1
Inseminator	1		0.02					1				
Livestock Specialist	2		0.02									2
Maintenance Man	7		0.14					7				
Ranch Hand	10		0.20					10				
Soils Specialist	1		0.02									1
Tractor Driver	4		0.08					4				
Wildlife Specialist	1		0.02									1
TOTALS:	37							26		1		10

of employees in the southeast district were (1) agricultural supplies, services, and distribution, (2) livestock industry, service, and distribution, (3) agricultural finance, insurance and real estate, (4) agricultural machinery and equipment manufacturing and distribution, (5) feed and grain manufacturing, processing and distribution. The five counties indicating the largest employment within all twenty types of organizations were (1) Bryan, (2) LeFlore, (3) Pushmataha, (4) Pontotoc, and (5) Pittsburg.

Northeast District

The largest number of agri-business employees in any county in Oklahoma was revealed to be in Tulsa County in the Northeast Supervisory District of Vocational Agriculture. This information is shown in Table XXIII. The district is composed of 19 counties. There were 8099 employees in the 20 different types of organizations within the 19 county area. The five largest types of organizations as to the number of employees in the Northeast District were (1) agricultural buildings and construction, (2) agricultural finance, insurance, and real estate, (3) food manufacturing, processing and distribution, (4) agricultural supplies, service and distribution, and (5) ornamental horticulture and floriculture. The five counties indicating the largest employment within all twenty types of organizations were (1) Tulsa, (2) Muskogee, (3) Creek, (4) Adair, and (5) Craig.

Central District

Data and information concerning employment in the Central Supervisory District of Vocational Agriculture are shown in Table XXIV. The

TABLE XXII

NUMBER OF EMPLOYEES BY TYPE OF ORGANIZATION BY COUNTY, DISTRICT AND STATE

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Southeast District																					
Atoka	25	24	0	6	5	13	0	9	11	3	3	0	2	10	0	0	0	0	5	0	116
Bryan	64	73	10	104	76	16	14	33	40	0	4	5	4	115	13	18	0	0	7	0	596
Choctaw	3	0	0	11	62	10	0	9	0	7	2	2	1	55	21	9	0	0	2	0	194
Coal	75	12	0	17	7	8	0	5	23	5	5	3	0	10	9	2	0	0	5	0	186
Haskell	45	17	10	8	95	5	0	3	33	15	2	0	5	35	5	3	0	0	4	0	285
Hughes	0	82	10	2	36	8	0	7	56	7	4	4	6	40	0	9	3	5	5	0	784
Johnston	0	0	0	1	14	10	0	0	9	5	4	6	4	6	4	3	0	0	2	0	68
Latimer	58	20	0	16	45	0	8	13	19	7	22	3	0	7	8	8	6	6	2	0	248
LeFlore	13	65	10	21	75	6	0	99	42	69	7	0	5	54	28	8	20	0	10	26	551
Marshall	0	38	0	3	10	12	0	9	0	11	4	2	3	5	3	11	0	0	3	0	114

TABLE XXII Continued

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Southeast District																					
McCurtain *																					
Pittsburg	0	35	7	35	69	10	3	27	23	13	8	2	7	54	0	5	0	9	6	0	308
Pontotoc	10	36	8	53	57	0	18	106	37	0	7	0	1	15	5	25	0	5	12	0	395
Pushmataha	16	45	20	65	15	10	0	16	0	128	6	4	1	61	5	12	0	6	9	0	419
Seminole	0	9	9	50	0	3	12	30	0	0	7	0	6	23	54	0	0	0	7	0	210
DISTRICT TOTALS:	309	456	84	392	566	111	55	366	293	270	85	31	45	480	155	142	29	31	79	26	

* No responses received

TABLE XXIII

NUMBER OF EMPLOYEES BY TYPE OF ORGANIZATION BY COUNTY, DISTRICT AND STATE

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hwy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Northeast District																					
Adair	6	14	0	9	159	6	0	20	25	96	57	15	1	15	7	14	0	2	3	0	449
Cherokee *																					
Craig	70	66	10	7	85	7	0	20	1	7	4	0	3	84	9	15	0	0	5	0	393
Creek	0	101	8	35	66	10	0	31	2	0	5	0	2	41	8	17	0	0	32	0	808
Delaware	0	24	0	0	11	0	0	0	2	42	4	0	0	5	0	14	35	0	2	0	139
Mayes	25	35	10	73	5	0	0	19	5	9	6	0	5	62	7	12	0	0	3	0	277
McIntosh	0	12	0	0	3	10	0	11	0	0	2	0	3	25	0	6	0	0	2	0	74
Muskogee	3	150	13	64	232	25	0	54	210	4	7	31	8	50	26	56	25	307	5	0	1270
Nowata	8	18	0	31	0	0	0	9	0	3	4	0	0	15	12	5	0	0	3	0	108
Okfuskee	0	40	0	0	27	10	0	14	23	0	3	8	2	10	0	10	0	0	2	0	151
Okmulgee	32	11	8	29	12	3	0	24	14	12	28	31	4	30	71	23	0	0	6	0	338
Osage	0	52	5	0	0	0	0	10	0	3	4	0	0	51	7	12	0	0	7	0	151

TABLE XXIII Continued

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Northeast District																					
Ottawa	45	31	10	37	23	0	0	64	0	30	6	10	3	14	3	34	0	0	3	0	313
Pawnee *																					
Rogers	0	38	0	0	20	0	0	11	0	0	7	0	4	19	5	30	0	0	0	0	134
Sequoyah	0	36	0	0	11	10	0	10	0	4	3	5	1	1	0	6	0	0	0	0	87
Tulsa	1032	510	81	80	172	10	437	78	624	23	113	57	16	131	82	359	0	0	22	0	3807
Wagoner *																					
Washington	15	24	10	7	33	0	14	7	0	5	7	0	3	2	7	15	6	2	0	0	149
DISTRICT TOTALS:	1236	1162	135	372	859	91	451	382	885	238	260	157	55	555	161	628	66	311	95	0	

* No responses received

district is composed of 13 counties. There were 4767 employees in the 20 different types of organizations within the 13 county area. The five largest type of organizations as to the number of employees in the Central District were (1) agricultural finance, insurance and real estate, (2) agricultural supplies service and distribution, (3) ornamental horticulture and floriculture, (4) livestock industry service and distribution, and (5) food manufacturing, processing, service and distribution. The five counties indicating the largest employment within all twenty types of organizations were (1) Oklahoma, (2) Cleveland, (3) Pottawatomie, (4) Stephens, and (5) Carter.

Southwest District

Inspection of the data in Table XXV revealed that there was an average of 209 agri-business employees in each county in the Southwest Supervisory District of Vocational Agriculture. The district is composed of 14 counties. There were 3931 employees in the 20 different types of organizations within the 14 county area. The five largest type of organizations as to the number of employees in the Southwest District were (1) feed and grain manufacturing, processing and distribution, (2) agricultural finance, insurance, and real estate, (3) agricultural supplies, service, and distribution, (4) livestock industry, service, and distribution, and (5) cotton manufacturing, processing and distribution. The five counties indicating the largest employment within all twenty types of organizations were (1) Grady, (2) Beckham, (3) Comanche, (4) Caddo, and (5) Tillman.

TABLE XXIV

NUMBER OF EMPLOYEES BY TYPE OF ORGANIZATION BY COUNTY, DISTRICT AND STATE

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Central District																					
Carter	14	97	0	9	111	3	43	17	0	0	20	0	0	36	0	35	0	0	20	0	405
Cleveland	2	127	11	8	126	5	139	10	30	4	5	5	9	20	5	52	9	0	5	0	572
Garvin	7	51	12	28	65	6	0	18	37	11	8	0	6	30	7	22	0	2	2	0	312
Jefferson	0	31	8	3	4	11	0	6	0	0	7	4	3	69	0	3	2	0	2	0	153
Lincoln	4	116	4	18	52	3	0	15	32	38	8	9	4	30	10	15	0	0	4	0	362
Logan														22	0	126	0	0	0	0	148
Love	3	11	0	0	0	7	0	7	2	2	5	7	2	10	0	3	0	0	1	0	60
McClain	0	42	10	3	129	7	2	18	8	0	11	0	4	20	11	4	3	1	5	0	282
Murray	8	31	0	8	102	11	0	18	26	0	3	132	3	28	5	2	9	0	2	0	388
Oklahoma	0	580	10	4	71	5	30	24	61	0	10	0	7	36	88	65	34	0	7	0	1032
Payne	2	4	0	3	5	7	0	0	4	0	5	0	0	25	0	12	0	0	4	0	71
Stephens	12	121	10	12	38	9	0	20	46	0	36	0	1	32	9	46	2	0	12	0	408
Pottawatomie	25	117	14	10	20	10	0	32	80	0	10	0	7	41	35	60	93	5	11	0	570
DISTRICT TOTALS:	77	1328	79	106	723	84	214	183	326	55	128	157	46	399	168	445	152	21	75	0	

TABLE XXV

NUMBER OF EMPLOYEES BY TYPE OF ORGANIZATION BY COUNTY, DISTRICT AND STATE

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Southwest District																					
Beckham	34	110	10	19	92	72	45	38	10	18	3	0	3	96	13	12	0	0	3	0	598
Caddo	25	34	10	15	84	36	0	2	49	9	2	4	2	43	0	10	0	0	8	0	333
Canadian	0	48	27	10	30	10	3	62	9	0	5	7	7	19	3	14	0	0	5	0	259
Comanche	32	99	43	17	54	14	8	27	6	7	7	21	14	19	36	55	0	0	2	0	491
Cotton	2	32	0	5	4	16	0	33	21	0	5	6	2	10	22	3	0	0	2	0	173
Custer	17	28	0	10	11	10	0	13	0	8	7	6	1	10	3	0	0	3	4	0	131
Grady	41	43	10	51	49	11	98	205	16	32	10	4	8	57	7	27	0	0	10	0	679
Greer	0	9	0	14	4	14	0	8	3	0	4	0	2	50	2	5	0	0	2	0	117
Harmon	0	18	0	11	29	37	0	25	6	4	7	8	3	31	1	3	0	0	2	0	185
Jackson	0	50	10	16	41	30	0	69	0	0	6	8	5	35	2	14	0	0	3	0	289
Kiowa	0	30	0	19	30	24	0	15	19	0	3	0	1	22	0	0	13	0	3	0	179

TABLE XXV Continued

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Southwest District																					
Roger Mills *																					
Tillman	0	28	15	15	54	22	0	59	0	0	5	9	4	68	8	11	0	0	4	0	305
Washita	45	34	8	11	46	11	0	50	0	0	4	7	1	0	5	18	8	0	4	0	262
DISTRICT TOTALS:	196	563	143	203	528	307	154	606	139	78	68	80	53	460	102	172	21	3	52	3	

* No responses received

Northwest District

Table XXVI revealed that the livestock industry type of organization in the Northwest District was the highest of the 20 types of organizations according to the number of employees. The Northwest District is composed of 16 counties. There were 2504 employees in the 20 different types of organizations within the 16 county area. The five largest types of organizations as to the number of employees in the Northwest were: (1) livestock industry, service, and distribution, (2) agricultural supplies, service, and distribution, (3) agricultural finance, insurance and real estate, (4) feed and grain manufacturing, processing, and distribution, and (5) agricultural machinery and equipment manufacturing and distribution. The five counties indicating the largest employment within all twenty types of organizations were (1) Kay, (2) Grant, (3) Noble, (4) Texas, and (5) Blaine.

District Summary

Ranking of supervisory districts according to the number of employees is shown in Table XXVII. The districts listed in the order of total number of positions would be as follows: (1) Northeast District, (2) Central District, (3) Southeast District, (4) Southwest District, and (5) Northwest District. The largest number of employees by type of organization and by the five supervisory districts is shown in Table I.

The number one type of organization by employee numbers was agricultural supplies and services. Agricultural supplies and services was fourth in the Northeast District, second in the Central District, third

TABLE XXVI

NUMBER OF EMPLOYEES BY TYPE OF ORGANIZATION BY COUNTY, DISTRICT AND STATE

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hwy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg. Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Northwest District																					
Alfalfa	3	12	7	11	27	4	0	17	2	2	3	0	0	10	2	3	0	0	4	0	109
Beaver	0	24	0	9	7	0	0	4	0	4	4	5	1	12	0	3	0	0	3	0	76
Blaine	8	48	0	17	28	9	17	52	0	4	6	26	3	25	4	12	0	0	9	0	260
Cimarron *																					
Dewey	0	30	10	10	29	11	0	26	16	9	4	9	6	51	2	7	3	0	0	0	233
Ellis	1	11	0	5	17	10	0	43	18	0	5	5	0	13	0	4	0	0	0	0	132
Garfield *																					
Grant	11	20	20	18	101	4	2	56	18	4	7	13	7	46	0	16	2	0	0	0	345
Harper	3	80	0	16	53	9	0	0	0	0	7	5	3	65	6	3	0	0	5	0	205
Kay	9	83	10	52	38	0	17	11	0	0	10	0	10	30	2	92	0	0	0	0	364
Kingfisher *																					
Major *																					

TABLE XXVI Continued

COUNTY, DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hwy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg. & Distr.	Ag. Supplies, Serv. & Distr.	Cotton Mfg., Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Northwest District																					
Noble	4	73	10	11	36	0	0	60	0	8	8	7	7	63	0	16	0	6	0	0	309
Texas	13	27	10	27	32	10	0	8	18	7	0	0	2	106	4	7	0	0	5	8	284
Woods	0	5	0	3	12	0	0	7	0	0	0	0	0	27	0	4	0	0	0	0	58
Woodward	0	2	11	1	11	20	0	5	0	0	0	14	0	33	4	8	0	0	0	0	109
DISTRICT TOTALS:	52	365	78	180	393	78	36	299	72	38	34	84	39	480	24	175	5	6	39	8	

* No responses received

in the Southwest District, and second in the Northwest District.

The number one type of organization by employee numbers in the Northeast District was agricultural buildings and construction. Agricultural buildings and construction was not ranked in the top five in any of the other districts.

Agricultural finance, insurance and real estate ranked first according to the number of employees in the Central District. In the Southeast District, agricultural finance, insurance and real estate was ranked third, and in the Northeast District, was ranked second. It was second also in the Southwest District and third in the Northwest District.

The feed and grain manufacturing, processing, and distribution type of organization was listed first by the number of employees in the Southwest District. The Southeast District had this type of organization ranked fifth. The feed and grain type of organization was not ranked in the top five agri-business organizaions in either the Northeast or Central Districts. It was listed number four in the Northwest district of the State of Oklahoma.

The livestock industry type of agri-business organization was ranked first in the Northwest Supervisory District. It was number two in the Southeast, number four in the Central District, number four in the Southwest District, and was not listed in the top five rankings in the Northeast District.

Employment Patterns Relative to Age, Training and Knowledge of Cooperative Part-Time Education Programs in Vocational Agriculture

Tables XXVIII through XLVIII give the breakdown on each type of

TABLE XXVII

NUMBER OF EMPLOYEES BY TYPE OF ORGANIZATION AND BY SUPERVISORY DISTRICT

SUPERVISORY DISTRICT	Ag. Building & Construction	Ag. Finance, Ins. & Real Estate	Ag. Hvy. Mchy. & Equip., Serv. & Operation	Ag. Mchy. & Equip., Mfg., & Distr.	Ag. Supplies, S Serv. & Distr.	Cotton Mfg. Proc. & Distr.	Dairy Mfg. Proc. & Distribution	Feed & Grain Mfg. Proc. & Distr.	Food Mfg., Proc. Serv. & Distr.	Forestry Proc. & Distribution	Fruit & Veg. Proc. & Distr.	Government Services	Kennels, Pets, Sup. & Service	Livestock Ind. Serv. & Distr.	Meat Proc. & Distribution	Orn. Hort. & Floriculture	Poultry Proc. Serv. & Distr.	Recreation & Wildlife	Vet. Supplies Serv. & Sales	Ag. Research Foundation	TOTALS
Southeast District	309	456	84	392	566	111	55	366	293	270	85	31	45	480	155	142	29	31	79	26	4005
Northeast District	1236	1162	135	372	859	91	451	382	885	238	260	157	55	555	161	628	66	311	95	0	8099
Central District	77	1328	79	106	723	84	214	183	326	55	128	157	46	399	168	445	152	21	75	0	4766
Southwest District	196	563	143	203	528	307	154	606	139	78	68	80	53	460	102	172	21	3	52	3	3931
Northwest District	52	365	78	180	393	78	36	299	72	38	54	84	39	480	24	175	5	6	39	8	2505
STATE TOTALS:	1870	3874	519	1253	3069	671	910	1836	1715	679	595	509	238	2374	610	1562	273	372	340	37	23,306

organization by the total number of interviews as related to the expressions of the respondents by a "yes" or "no" answer to the following items (1) Will you employ 18-year olds if qualified? (2) Are you now employing high school students part-time? (3) Are you willing to employ in a training capacity, for three or more hours daily, cooperative part-time students? (4) Are you familiar with the cooperative part-time education program in vocational agriculture? (5) Would you employ 18-year olds only if older workers are not available?

Agricultural Buildings and Construction

Inspection of data presented in Table XXVIII reveals that 100 (90 percent) of those interviewed were willing to hire qualified 18-year old workers. However, 15 said they would employ this type workers only if older ones were not available. Only 28 employers (21 percent) were currently employing high school students part-time. Seventy-four employers (59 percent) indicated they were willing to employ student workers in a training capacity, while it was found that more than one-half of the respondents were not familiar with cooperative part-time programs in vocational agriculture.

Agricultural Finance, Insurance and Real Estate

Twenty-eight respondents out of the total interviews of 1072 in Table XXIX indicated they would only hire 18-year olds if older workers were not available.

Table XXIX shows further that 212 (86 percent) employers would employ 18-year olds if they were qualified. Only 19 percent of the employers were currently employing high school students part-time, but

TABLE XXVIII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN AGRICULTURAL BUILDINGS AND CONSTRUCTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	111	100	90	11	10
Currently employing high school students part-time	131	28	21	103	79
Willing to employ in a training capacity	125	74	59	51	61
Familiar with cooperative part-time	119	58	48	61	52

NOTE: 15 employers indicated they would hire 18-year olds only if older workers were not available.

146 or 54 percent would be willing to employ cooperative part-time high school students in a training capacity.

To the question, are you familiar with the cooperative part-time education program in vocational agriculture, the data in Table XXIX indicated that 59 percent answered "yes".

Agricultural Heavy Machinery and Equipment

Data presented in Table XXX shows responses of agri-business employers to be as follows to the five questions. The reply to, would you employ 18-year olds if qualified?, was 90, yes; 12, no; are you currently employing high school students?, 85, or 79 percent, stated no; would you be willing to employ high school students in a training capacity was answered by a total of 110 employers in the agricultural heavy equipment type of organization. The affirmative answer was 73, or 66 percent. The question concerning the familiarity of the employers with vocational part-time education programs was 56 (51 percent) yes and 53 (49 percent) no. Only ten employers indicated they would hire 18-year olds only if older workers were not available.

Agricultural Machinery and Equipment

An analysis of the data in Table XXXI reveals that there were 510 interviews in the agricultural machinery and equipment, manufacturing, and distribution type of organization. Ninety percent of those interviewed stated that they would hire 18-year olds if they were qualified and only 25 percent indicated that they were currently employing high school students on a part-time basis; further, 65 percent of those interviewed indicated that they would be willing to employ high school

TABLE XXIX

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN AGRICULTURAL FINANCE, INSURANCE, AND REAL ESTATE

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	246	212	82	34	14
Currently employing high school students part-time	280	53	19	227	81
Willing to employ in a training capacity	270	146	54	124	46
Familiar with cooperative part-time programs in vocational agriculture	276	164	59	112	41

NOTE: 28 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XXX

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN AGRICULTURAL HEAVY MACHINERY AND EQUIPMENT, SERVICE AND OPERATION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	102	90	88	12	12
Currently employing high school students part-time	109	24	21	85	79
Willing to employ in a training capacity	110	73	66	37	34
Familiar with cooperative part-time programs in vocational agriculture	109	56	51	53	49

NOTE: 9 employers indicated they would hire 18-year olds only if older workers were not available.

students in a training capacity. A total of ten employers out of the 510 interviews stated that they would hire 18-year olds only if older workers were not available. Fifty-six percent, or 71 employers out of the 127, implied that they were familiar with the cooperative part-time education program in vocational agriculture.

Agricultural Supplies, Services, and Distribution

The summary of Table XXXII shows that the agricultural supplies type of organization had the second highest number (46) of employers stating that they would hire 18-year olds only if older workers were not available. Further inspection of the data indicated that only 14 employers would refuse to hire 18-year olds if they were qualified. One hundred and fifty-eight (66 percent) stated they currently were hiring high school students part-time. One hundred and forty-two (57 percent) indicated they would be willing to employ high school students in a training capacity. Those familiar with the cooperative part-time education program in vocational agriculture was about even, 51 percent said yes and 49 percent said no.

Cotton Manufacturing, Processing, and Distribution

The employers of the cotton manufacturing, processing, and distribution type of organization responded to the interview as indicated in Table XXXIII. Inspection of the data reveals that only 5 (10 percent) of the respondents said they would not employ 18-year olds if they were qualified. Thirty-three (38 percent) said they were currently hiring high school students part-time and 93 percent indicated they were willing to employ high school students in a training capacity, part-time.

TABLE XXXI

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN AGRICULTURAL MACHINERY AND EQUIPMENT, MANUFACTURING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	117	105	90	12	10
Currently employing high school students part-time	128	32	25	96	75
Willing to employ in a training capacity	138	90	65	48	35
Familiar with cooperative part-time programs in vocational agriculture	127	71	56	56	44

NOTE: 10 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XXXII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN AGRICULTURAL SUPPLIES, SERVICES, AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	203	189	93	14	07
Currently employing high school students part-time	240	82	34	158	66
Willing to employ in a training capacity	251	142	57	109	43
Familiar with cooperative part-time programs in vocational agriculture	243	123	51	120	49

NOTE: 46 employers indicated they would hire 18-year olds only if older workers were not available.

Less than one-half (48 percent) of the employers were familiar with the cooperative part-time education program in vocational agriculture.

A total of nine employers from the cotton manufacturing, processing, and distribution type of organization indicated they would hire older workers, but would hire 18-year olds if the older workers were not available.

Dairy Manufacturing, Processing, and Distribution

Four respondents (3 percent) out of a total of 124 interviews indicated they would prefer to hire older workers, rather than 18-year olds, if available. This information is synthesized in Table XXXIV. Ninety percent of the employers said they would hire 18-year olds if they were qualified; however, only 46 percent were currently employing high school students in a training capacity. Eighty percent indicated they were willing to employ high school students part-time in a training capacity. Slightly over one-half (57 percent) of the employers in this type of organization were familiar with the cooperative part-time education program in vocational agriculture.

Feed and Grain Manufacturing, Processing, and Distribution

From the data provided in Table XXXV, it may be seen that 121 (92 percent) employers would employ 18-year olds if they were qualified; however, four employers indicated they would hire 18-year olds only if older workers were not available. Fifty percent stated yes and fifty percent stated no when asked if they were currently hiring 18-year olds. Eighty-nine (70 percent) agreed to employ high school students in a training capacity. Slightly over one-half (56 percent) of the employers

TABLE XXXIII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN COTTON MANUFACTURING, PROCESSING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	61	56	90	5	10
Currently employing high school students part-time	87	33	38	54	62
Willing to employ in a training capacity	54	50	93	34	07
Familiar with cooperative part-time programs in vocational agriculture	83	40	48	43	52

NOTE: 9 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XXXIV

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN DAIRY MANUFACTURING, PROCESSING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	20	18	90	2	10
Currently employing high school students part-time	35	16	46	19	54
Willing to employ in a training capacity	41	33	80	8	20
Familiar with cooperative part-time programs in vocational agriculture	28	16	57	12	43

NOTE: 4 employers indicated they would hire 18-year olds only if older workers were not available.

were familiar with the cooperative part-time education program in vocational agriculture.

Food Manufacturing, Processing, Service, and Distribution

The total number of interviews for the food manufacturing, processing, and service type of agri-business organization is shown in Table XXXVI. Review of the data reveals that 94 percent of the respondents would employ qualified 18-year old students and that 40 percent were currently employing them on a part-time basis. Over one-half of the employers indicated that they would be willing to employ high school students in a training capacity for three or more hours per day. The familiarity of the cooperative part-time education program in vocational agriculture was 63 percent among the respondents from the food manufacturing, processing, and distribution type of organization.

Forestry Processing and Distribution

Only 31 forestry processing and distribution employers (48 percent) stated that they were familiar with the cooperative part-time education program in vocational agriculture. Table XXXVII shows this data from 253 interviews. Eighty-seven percent of the employers stated they would hire 18-year olds if qualified and only 31 percent were hiring high school students at this time. However, 34 percent would be willing to employ high school students in a training capacity for three or more hours per day. Less than one-half (48 percent) of the interviewees indicated that they were familiar with the cooperative part-time education program in vocational agriculture.

TABLE XXXV

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN FEED AND GRAIN MANUFACTURING, PROCESSING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	131	121	92	10	08
Currently employing high school students part-time	115	58	50	57	50
Willing to employ in a training capacity	128	89	70	39	30
Familiar with cooperative part-time programs in vocational agriculture	123	69	56	54	44

NOTE: 4 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XXXVI

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN FOOD MANUFACTURING, PROCESSING, SERVICE AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	81	76	94	5	06
Currently employing high school students part-time	73	40	55	33	45
Willing to employ in a training capacity	70	37	53	33	47
Familiar with cooperative part-time programs in vocational agriculture	82	52	63	30	37

NOTE: 6 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XXXVII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN FORESTRY PROCESSING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	60	52	87	8	13
Currently employing high school students part-time	65	20	31	45	69
Willing to employ in a training capacity	64	34	53	30	47
Familiar with cooperative part-time programs in vocational agriculture	64	31	38	33	52

NOTE: 5 employers indicated they would hire 18-year olds only if older workers were not available.

Fruit and Vegetable Processing and Distribution

Table XXXVIII gives a breakdown on the fruit and vegetable type of agri-business organization. Seventy percent of the employers revealed that they would hire 18-year old students if they were qualified; however, four out of 151 indicated they would do so only if older workers were not available. The data revealed that 52 percent of the employers were currently hiring high school students on a part-time basis and that 43 percent of those employers were not familiar with the cooperative part-time education program in vocational agriculture.

Government Services

The responses of those government service employers who were familiar with and those who were not familiar with the cooperative part-time education program in vocational agriculture were 46 "yes" and 34 "no", as shown in Table XXXIX.

The data in Table XXXIX further revealed that 17 employers out of the 291 interviewed in the government services type of organization would prefer to hire older workers but would employ 18-year olds if older workers were not available. Ninety-one percent of the employers would hire 18-year olds if they were qualified and only 16 percent were now employing high school students on a part-time basis. Sixty-three percent indicated that they would be willing to employ high school students in a training capacity for three or more hours per day.

Kennels, Pets, Supplies and Service

It appears from the data in Table XL that the employers in kennels and similar businesses were almost unanimous in their willingness in

TABLE XXXVIII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN FRUIT AND VEGETABLE PROCESSING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	27	19	70	8	30
Currently employing high school students part-time	42	22	52	20	48
Willing to employ in a training capacity	35	21	60	14	40
Familiar with cooperative part-time programs in vocational agriculture	47	27	57	20	43

NOTE: 4 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XXXIX

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN GOVERNMENT SERVICES (ASCS, FHA, FLB, SCS, EXPERIMENT STATIONS, FOUNDATIONS, ETC.)

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	60	55	91	5	09
Currently employing high school students part-time	76	12	16	64	84
Willing to employ in a training capacity	75	47	63	28	37
Familiar with cooperative part-time programs in vocational agriculture	80	46	57	34	43

NOTE: 17 employers indicated they would hire 18-year olds only if older workers were not available.

hiring 18-year olds if they were qualified; only four out of the total number interviewed indicated that they would hire 18-year olds only if older workers were not available. Eighty-two percent indicated that they would hire 18-year olds if they were qualified. Forty-seven percent were familiar with the cooperative part-time education program in vocational agriculture. Only 44 percent were currently hiring high school students on a part-time basis, but 68 percent indicated they would be willing to hire high school students for three or more hours per day.

Livestock Industry Service and Distribution

The data presented in Table XLI shows that there were more interviews (1658) performed in the livestock industry type of agri-business organization than any of the other 19 selected organizations.

Inspection of the data revealed that 363 (94 percent) of the employers would employ 18-year olds if they were qualified; however, 36 out of the group said they would hire 18-year olds only if older workers were not available. There were only 201 (47 percent) employers currently hiring high school students on a part-time basis, but 295 (70 percent) indicated that they would be willing to employ high school students in a training capacity. Two hundred and ninety-five of the respondents were familiar with the cooperative part-time education program in vocational agriculture.

Meat Processing and Distribution

Based on the data presented in Table XLII, all but nine (15 percent) of the respondents in meat processing and distribution indicated they would employ 18-year olds if they were qualified; however, eight indi-

TABLE XL

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN KENNELS, PETS, SUPPLIES AND SERVICE

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	28	23	82	5	18
Currently employing high school students part-time	34	15	44	19	56
Willing to employ in a training capacity	37	25	68	12	32
Familiar with cooperative part-time programs in vocational agriculture	36	17	47	19	53

NOTE: 4 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XLI

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN LIVESTOCK INDUSTRY SERVICE AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	388	363	94	25	06
Currently employing high school students part-time	429	201	47	228	53
Willing to employ in a training capacity	421	295	70	126	30
Familiar with cooperative part-time programs in vocational agriculture	420	218	52	202	48

NOTE: 36 employers indicated they would hire 18-year olds only if older workers were not available.

cated they would hire 18-year olds only if older workers were not available. Forty-nine (79 percent) were willing to employ high school students in a training capacity and 44 percent indicated they were currently hiring high school students part-time. Forty-seven percent stated that they were not familiar with the cooperative part-time education program in vocational agriculture.

Ornamental Horticulture and Floriculture

After a breakdown of the data in Table XLIII, it is revealed that the ornamental horticulture type of organization is one of the organizations which employs a large number of students in a training capacity; 114 (36 percent) said they were currently employing high school students part-time. Further inspection of the data indicated that 242 (90 percent) of the employers would employ 18-year olds if they were qualified; however, 63 (5 percent) indicated they would hire 18-year olds only if older workers were not available. One hundred and eighty (61 percent) stated that they were willing to employ high school students in a training capacity. Fifty-five percent of the employers interviewed indicated that they were familiar with the cooperative part-time education program in vocational agriculture.

Poultry Processing, Service and Distribution

The trend of the previous respondents continued in the poultry processing, service and distribution type of agri-business organization. Table XLIV points out that 81 percent of the employers would employ 18-year olds if they were qualified and currently 33 percent were employing high school students on a part-time basis. Thirty-three percent also

TABLE XLII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN MEAT PROCESSING AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	60	51	85	9	15
Currently employing high school students part-time	79	35	44	44	56
Willing to employ in a training capacity	65	49	77	16	23
Familiar with cooperative part-time programs in vocational agriculture	73	39	53	34	47

NOTE: 8 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XLIII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN ORNAMENTAL HORTICULTURE AND FLORICULTURE

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	268	242	90	26	10
Currently employing high school students part-time	314	114	36	200	64
Willing to employ in a training capacity	295	180	61	115	39
Familiar with cooperative part-time programs in vocational agriculture	309	171	55	138	45

NOTE: 63 employers indicated they would hire 18-year olds only if older workers were not available.

stated that they would be willing to employ high school students in a training capacity. Four out of the ninety-eight employers said they would hire older workers if they were available and that 48 percent of the respondents were familiar with the cooperative part-time education program in vocational agriculture.

Recreation and Wildlife

The data presented in Table XLV shows that only one employer in the recreation and wildlife type of agri-business organization would hire 18-year olds only if older workers were not available. Ninety-four percent stated that they would hire 18-year olds if qualified. Only 40 percent were currently hiring high school students on a part-time basis, but 60 percent indicated that they would be willing to employ high school students in a training capacity. Forty-five percent of the employers indicated that they were not familiar with the cooperative part-time education program in vocational agriculture.

Veterinary Supplies, Services and Sales

The six veterinary supplies, sales and service employers indicating that they would hire 18-year olds only if older workers were not available is only approximately six percent of the total number of employers interviewed. Table XLVI further shows that 89 percent of the employers would employ 18-year olds if they were qualified. The data analysis points out that only 36 percent are currently employing high school students in a training capacity. Fifty-three percent of the employers interviewed stated that they were familiar with the cooperative part-time education program in vocational agriculture.

TABLE XLIV

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN POULTRY PROCESSING, SERVICE AND DISTRIBUTION

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	16	13	81	3	19
Currently employing high school students part-time	30	10	33	20	67
Willing to employ in a training capacity	27	9	33	18	67
Familiar with cooperative part-time programs in vocational agriculture	25	12	48	13	52

NOTE: 4 employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XLV

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN RECREATION AND WILDLIFE

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	17	16	94	1	06
Currently employing high school students part-time	18	7	40	11	60
Willing to employ in a training capacity	17	10	60	7	40
Familiar with cooperative part-time programs in vocational agriculture	18	10	55	8	45

NOTE: 1 employer indicated he would hire 18-year olds only if older workers were not available.

TABLE XLVI

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN VETERINARY SUPPLIES, SERVICES AND SALES

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	64	57	89	7	11
Currently employing high school students part-time	92	33	36	59	64
Willing to employ in a training capacity	92	59	64	33	36
Familiar with cooperative part-time programs in vocational agriculture	95	50	53	45	47

NOTE: 6 employers indicated they would hire 18-year olds only if older workers were not available.

Agricultural Research Foundations

The data presented in Table XLVII shows that the number of research foundation employers interviewed was only four, but all four employers were familiar with the cooperative part-time education program in vocational agriculture. All respondents were 100 percent favorable cooperators in the employment of 18-year olds, currently employing high school students part-time, willing to employ in a training capacity, and would hire 18-year olds even if older workers were available.

Type of Organization Summary

The data presented in Table XLVIII is a summary of the 20 previous type of organization tables. Analysis of the compiled data indicates that 1869 (90 percent) of the employers were willing to employ 18-year olds if they are qualified; however, 279 stated that they would hire 18-year olds only if older workers were not available. Further inspection of the data presented in Table XLVIII reveals that 1078 (47 percent) of the employers were not familiar with the cooperative part-time education program in vocational agriculture. Only 836 (35 percent) are currently employing high school students part-time, but 1581 (68 percent) stated that they would be willing to employ cooperative part-time high school students for three or more hours per day in a training capacity.

TABLE XLVII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN AGRICULTURAL RESEARCH FOUNDATIONS

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	1	1	100	0	0
Currently employing high school students part-time	1	1	100	0	0
Willing to employ in a training capacity	1	1	100	0	0
Familiar with cooperative part-time programs in vocational agriculture	1	1	100	0	0

NOTE: No employers indicated they would hire 18-year olds only if older workers were not available.

TABLE XLVIII

EMPLOYMENT PATTERNS RELATIVE TO AGE, TRAINING AND KNOWLEDGE OF COOPERATIVE PART-TIME EDUCATION PROGRAMS IN VOCATIONAL AGRICULTURE
ALL ORGANIZATIONS COMBINED

ITEMS	TOTAL INTERVIEWS	NUMBER YES	PERCENT OF TOTAL	NUMBER NO	PERCENT OF TOTAL
Employ 18-year olds if qualified	2071	1869	90	202	10
Currently employing high school students part-time	2378	836	35	1542	65
Willing to employ in a training capacity	2316	1501	68	815	32
Familiar with cooperative part-time programs in vocational agriculture	2358	1280	54	1078	46

NOTE: 279 employers indicated they would hire 18-year olds only if older workers were not available.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of the study problem, the purpose and specific objectives of the study, the design and conduct of the study, and the major findings. Also presented are conclusions and recommendations which were based upon analysis and summarization of data collected and upon observations and impressions resulting from the design and conduct of the study.

Summary of the Study

Purpose of the Study

The primary purpose of the study was to supply manpower information related to agricultural business occupations, which may be used for training program expansion or for redirecting existing programs.

Specific Objectives of the Study

The following specific objectives were formulated to accomplish the major purpose of the study:

1. To locate and identify all off-farm agri-business organizations and occupations in Oklahoma.

2. To determine the number of persons presently employed, currently needed, and the projected requirements for the years 1972, 1973, and 1974.

3. To determine the possibility of 18-year olds being hired if qualified.

4. To determine the educational level required to enter the off-farm agri-business occupations.

5. To determine the turnover and entry opportunities in the surveyed occupations.

6. To determine the off-farm agri-business occupations existing in the twenty selected types of organizations.

7. To determine whether or not high school students are now being employed part-time and whether or not the employer is willing to employ cooperative part-time high school students in a training capacity for three or more hours per day.

8. To determine whether or not the employer was familiar with the cooperative part-time education program in vocational agriculture.

Rationale of the Study

The rationale for focusing the study on off-farm agri-business occupations was based on the "natural" advantages of farm youth for employment in any segment of the agricultural complex, providing they have the interest, guidance and desired education.

Trends in recent years have indicated a change from generalized to more specialized types of agriculture and agri-business. The movement of many processing, manufacturing and marketing functions from the farm to off-farm locations. The increase in-service occupations are now available to the youth in all areas of the agriculture complex. The demands for the products and services in residential and suburban areas have and are continuing to change.

In order for vocational agriculture and agri-business education to be optimally effective in resolving future manpower needs, there is a need to align them with the employment needs which prevail in the local communities. Schools may use the world of work in a number of ways as a part of their curricula to maintain cooperation with business and industry. The benefits derived from vocational agriculture and agri-business in the local community or in the state will be in direct ratio to the degree to which the program is geared to the needs of the area served.

By locating, identifying and determining the number of available jobs in each community in the state, a data base may be established for the formulation of a training program and/or instructional program. Such information may be useful to community, county, district, state and national educational leadership for decision making.

Design and Conduct of the Study

Following an extensive review of related research and literature, the major tasks involved in the design and procedure of the study were (1) to determine the population for the study, (2) to develop an instrument for data collection, (3) to develop a procedure for data collection, (4) to collect the data, and (5) to analyze the findings.

The study population consisted of agriculturally related businesses in the seventy-seven counties in Oklahoma. A multi-purpose data collection instrument was developed by the investigator (1) to locate and identify all off-farm agri-business occupations in Oklahoma, (2) to determine the number of people presently employed, currently needed, and the projected requirements for the years 1972, 1973, and 1974, (3) to determine the possibilities of 18-year olds being hired if qualified,

(4) to determine the desired educational level to enter the off-farm agri-business occupations, (5) to determine replacements needed, (6) to determine the off-farm agri-business occupations existing in the twenty selected types of organizations, (7) to determine whether or not high school students are now being employed part-time, and whether or not employers are willing to employ cooperative part-time high school students in a training capacity, and (8) to determine whether or not employers are familiar with the cooperative educational program in vocational agriculture.

The instrument was subjected to a pilot trial prior to actual use by each vocational agriculture teacher (data collector).

Data were collected in each community and county in the State of Oklahoma. All interviews were conducted by qualified data collectors (vocational agriculture teachers) or by the investigator.

Appropriate descriptive statistics were used in analyzing the data.

Findings

Data for the study were obtained by interviewing the owner, manager or official representative of 2542 off-farm agri-business agencies, businesses or industries in the State of Oklahoma. A total of 218 different occupational titles were identified within the study population. To facilitate data presentation, twenty different types of agri-business organizations were selected to represent a cluster of obviously similar occupational titles. There were 23,306 employees identified in the twenty types of agri-business organizations.

The findings of the study were summarized in terms of (1) the total number of selected agri-business agencies, businesses and industries in

Oklahoma and by the type of organization, (2) the job title and selected characteristics within the selected type of organization, (3) the number of employees by type of organization and by county, district and state, (4) the employment patterns relative to age, training, and knowledge of cooperative part-time education programs in vocational agriculture and agri-business.

Summary of Selected Off-Farm Agri-Business Occupations by Type of Organization

There were 23,306 employees identifed in the twenty selected types of organizations in the State of Oklahoma. The agri-business organization with the largest number of employees was the agricultural finance, insurance and real estate with 3874 employees and 16.5 percent of the total number of employees. The second largest organization was agricultural supplies, service, and distribution with 3069 employees and 13.3 percent of the total number of employees. The third largest type of organization was the livestock industry service and distribution type of organization with 2374 total employees and 10.3 percent of all the employees identified. The fourth largest type of organization was agricultural buildings and construction with 8.2 percent of the total population identified or a total number of 1870 employees. The feed and grain manufacturing, processing, and distribution type of organization was ranked fifth with 1836 employees, or 7.9 percent of the total. Standing in sixth at the completion of the study was the food manufacturing, processing, and distribution type of organization with 1715 employees, or 7.4 percent of the total number of employees. The seventh rank agri-business organization was ornamental horticulture and floriculture with

a total number of employees of 1562 and 6.6 percent of the total number of employees. The agricultural machinery and equipment manufacturing and distribution organization was ranked eighth with 1253 employees, or 4.6 percent of all employees identified. The nineth ranked organization was the dairy manufacturing, processing, and distribution type of organization with 3.8 percent of the total population or 910 employees. Number ten on the list was the forestry manufacturing, processing, and distribution type of organization with 679 employees, or 2.8 percent of the total population. The cotton manufacturing, processing, and distribution type of organization was ranked eleventh with 671 employees and a percentage of 2.9. The following types of organizations were: (12) meat processing and distribution, 610 employees, 2.8 percent; (13) fruit and vegetable processing and distribution, 595 employees, 2.5 percent; (14) agricultural heavy machinery and equipment service and operation, 519 employees, 2.2 percent; (15) government services, 509 employees, 2.2 percent; (16) recreation and wildlife, 372 employees, 1.5 percent; (17) veterinary supplies, service, and sales, 340 employees, 1.4 percent; (18) poultry processing distribution, 273 employees, 1.2 percent; (19) kennels, pets, supplies, and services, 238 employees, 1.0 percent; (20) agricultural research foundations, 37 employees, .10 percent of the total employee population.

Job Title and Selected Characteristics Within the Selected Type of Organization

A total of twenty types of agri-business organizations were selected. There were 218 different occupational titles identified within the twenty organizational clusters. Specific information received from

the study concerning the twenty types of organizations were (1) the number of people now employed, (2) the number of additional workers needed now, (3) the number of replacements needed annually, (4) the number of new jobs in 1972, 1973, and 1974, and (5) the educational level desired for each occupational title.

There were 23,306 employees identifed from the population. From the twenty types of organizations there was needed now 615 workers and an annual replacement of 502 employees. The annual replacements were arrived at by using the national averages for the employment replacements by occupational title within each type of organization. New jobs expected in 1972 were 1128, expected in 1973 were 836, and expected in 1974 were 636.

The educational level desired by all employers interviewed were: (1) grade school, 1141 employees; (2) high school, 12,056 employees; (3) vocational agriculture training, 3457 employees; (4) vocational and technical training, 3025 employees; (5) two years of college training, 2029 employees; (6) four years of college training, 1598 employees.

The occupational titles showing the largest number of employees in more than one type of organization were administrative personnel (managers, supervisors, directors, and foremen) with a total of 4007 employees; office personnel with a total of 3271; salesmen with a total of 1226 employees; truck drivers with 1003 employees; warehousemen with 772 employees; equipment operators with 724 employees; mechanics with 513 employees; carpenters with 219 employees; welders with 209 employees and maintenance men with 175 employees.

The occupational title in the agriculture building and construction type of organization with the largest employment was the metal workers.

In the agricultural finance, insurance, and real estate type of organization the occupational titles with the largest employment were insurance agent, cashier, clerk, loan officer, receptionist, and teller. The data from the agricultural machinery and equipment type of organization indicated that welder was one of the largest occupational titles relative to the number of employees. Equipment operators, exterminators, millworkers, processors, salesmen, servicemen, truck drivers, and warehousemen all showed a comparatively high rate of employment in the agricultural supplies, services, and distribution type of organization. After inspection of the data from the feed and grain type of organization, it was revealed that mill operator, deliveryman, equipment operator, elevator worker, grader, salesman, truck driver, and warehouseman were the occupational titles with the larger number of employees. The food checker and packaging worker indicated the highest number of employees in the food manufacturing, processing, service type of organization. The occupational title of carpenter and tractor operator were two of the largest employment occupational titles in the forestry processing and distribution type of organization. The occupational title of auctioneer, equipment operator, feed lot worker, nutritionist, weighmaster, and yardman were the largest in the number of employees in the livestock industry service and distribution organizations. The occupational titles of floral designer, greenhouseman, nursery man and equipment salesman employed the largest number of workers in the ornamental horticulture type of organization.

Educational Level Desired

After searching the data in Tables II through XXI, the following

information was revealed regarding the various aspects of the desired training for the occupational titles. The overall analysis of the data indicated that the high school educational level was desired by the employers for approximately 52 percent of the employees in all types of agri-business organizations, except the veterinary supplies, services, and sales type of organization. The veterinary supplies, services, and sales type of organization indicated an educational level preference by the employers for vocational agriculture training at the technical and service level and four years of college training for the administration personnel. The educational level desired for the occupational title of metal worker in the agricultural building and construction type of organization was the vocational and technical training level with high school education desired next. Also, vocational and technical education was desired for the occupational title of insurance agent in the agricultural finance, insurance, and real estate type of organization. The high school educational level was preferred by the employers of the occupational titles of cashier, clerk, loan officer, receptionist, and teller. For agricultural machinery and equipment businesses, it was noted that the high school level and vocational-technical training were desired for the occupational titles of partsman, small engine repairman, tractor and implement salesman and tractor mechanic. The vocational agriculture level of training was desired for the occupational title welder.

In reviewing the data for the agricultural supplies, services, and distribution type of organization vocational-technical training was desired for the occupational title technician; vocational agriculture training was desired for processor; and high school training was desired

for the other occupational titles.

The educational level desired for the larger occupational titles in the cotton and dairy manufacturing, processing, and distribution types of organizations was the high school level.

In the feed and grain manufacturing, processing, and distribution type of organization the high school level of education was desired for all occupational titles, except feed mixer and tester.

The educational level desired for cannery workers in the food manufacturing, processing, and distribution type of organization was grade school level of education.

The occupational titles equipment operator, salesman, livestock caretaker, in the livestock industry type of organization were listed by the majority of the employers as desiring the vocational agriculture level of training.

Number of Employees Per Organization by County, District and State

Southeast District

In comparing the number of employees by county and type of organization in the Southeast Supervisory District of Vocational Agriculture in the State of Oklahoma, it was found that the counties relative to the number of employees were ranked as follows: (1) Bryan, (2) LeFlore, (3) Pushmataha, (4) Pontotoc, (5) Pittsburg, (6) Haskell, (7) Hughes, (8) Latimer, (9) Seminole, (10) Choctaw, (11) Coal, (12) Atoka, (13) Marshall, (14) Johnston, and (15) McCurtain.

The data further revealed that the type of organization relative to the number of employees were as follows: (1) agricultural supplies, services, and distribution, (2) livestock industry, (3) agricultural

finance, insurance and real estate, (4) agricultural machinery and equipment manufacturing and distribution, (5) feed and grain manufacturing, processing and distribution, (6) agricultural building and distribution, (7) food manufacturing, processing, and distribution, (8) forestry processing and distribution, (9) meat processing and distribution, (10) ornamental horticulture, (11) cotton manufacturing, processing, and distribution, (12) fruit and vegetable processing and distribution, (13) agricultural heavy machinery and equipment, (14) veterinary supplies and service, (15) dairy manufacturing and processing, (16) kennels, pets, and supplies, (17) government services, (18) recreation and wildlife, (19) poultry processing and distribution, and (20) research foundations.

Northeast District

In the Northeast Supervisory District of Vocational Agriculture the counties were ranked by the number of employees as follows: (1) Tulsa, (2) Muskogee, (3) Creek, (4) Adair, (5) Craig, (6) Okmulgee, (7) Ottawa, (8) Mayes, (9) Osage, (10) Okfuskee, (11) Washington, (12) Delaware, (13) Rogers, (14) Nowata, (15) Sequoyah, (16) McIntosh, (17) Pawnee, (18) Wagoner, (19) Cherokee.

The selected type of organization in the Northeast District were ranked relative to the number of employees as follows: (1) agricultural buildings and construction, (2) agricultural finance, insurance, and real estate, (3) food processing and distribution, (4) agricultural supplies and service, (5) ornamental horticulture, (6) livestock industry, (7) dairy processing and distribution, (8) feed and grain manufacturing and processing, (9) agricultural machinery and equipment,

(10) recreation and wildlife, (11) fruit and vegetable processing, (12) forestry manufacturing and processing, (13) meat processing and distribution, (14) government services, (15) agricultural heavy machinery and equipment, (16) veterinary supplies and services, (17) cotton manufacturing and processing, (18) poultry processing and distribution, (19) kennels, pets, and supplies, and (20) research foundations.

Central District

For the Central District, a county breakdown in order by the numbers of employees was (1) Oklahoma, (2) Cleveland, (3) Pottawatomie, (4) Stephens, (5) Carter, (6) Murray, (7) Lincoln, (8) Garvin, (9) McClain, (10) Jefferson, (11) Logan, (12) Payne, and (13) Love.

In reviewing the data further, the types of organizations for the Central District are ranked as follows: (1) agricultural finance, insurance, and real estate, (2) agricultural supplies and services, (3) ornamental horticulture, (4) livestock industry, (5) food manufacturing and processing, (6) dairy manufacturing and processing, (7) feed and grain manufacturing and processing, (8) meat processing and distribution, (9) government services, (10) poultry processing and distribution, (11) fruit and vegetable processing and distribution, (12) agricultural machinery and equipment, (13) cotton manufacturing and processing, (14) agricultural heavy machinery and equipment, (15) agricultural buildings and construction, (16) veterinary supplies and services, (17) forestry processing and distribution, (18) kennels, pets, and supplies, (19) recreation and wildlife, (20) research foundations.

Southwest District

The following list shows the counties as they were ranked by the number of employees for the Southwest District: (1) Grady, (2) Beckham, (3) Comanche, (4) Caddo, (5) Tillman, (6) Jackson, (7) Washita, (8) Canadian, (9) Harmon, (10) Kiowa, (11) Cotton, (12) Custer, (13) Greer, and (14) Roger Mills. Also, the rank of the types of organizations in the Southwest District were given: (1) feed and grain manufacturing and processing, (2) agricultural finance, insurance, and real estate, (3) agricultural supplies, and services, (4) livestock industry, (5) cotton manufacturing and processing, (6) agricultural machinery and equipment, (7) agricultural buildings and construction, (8) ornamental horticulture, (9) dairy manufacturing and processing, (10) agricultural heavy machinery and equipment, (11) food manufacturing and processing, (12) meat processing and distribution, (13) government services, (14) forestry processing and distribution, (15) fruit and vegetable processing and distribution, (16) kennels, pets, and supplies, (17) veterinary supplies and services, (18) poultry processing and distribution, (19) recreation and wildlife, (20) agricultural research foundations.

Northwest District

The listing of counties by the number of employees for the Northwest Supervisory District were as follows: (1) Kay, (2) Grant, (3) Noble, (4) Texas, (5) Blaine, (6) Dewey, (7) Harper, (8) Ellis, (9) Woodward, (10) Alfalfa, (11) Major, (12) Beaver, (13) Woods, (14) Garfield, (15) Kingfisher, and (16) Cimarron. On the basis of the data, the types of organizations by the number of employees were

ranked as follows: (1) livestock industry, (2) agricultural supplies and services, (3) agricultural finance, insurance, and real estate, (4) Feed and grain manufacturing and processing, (5) agricultural machinery and equipment, (6) ornamental horticulture, (7) government services, (8) agricultural heavy machinery and equipment, (9) cotton manufacturing and processing, (10) food manufacturing and processing, (11) fruit and vegetable processing and distribution, (12) agricultural buildings and construction, (13) veterinary supplies and services, (14) kennels, pets, and supplies, (15) forestry processing and distribution, (16) dairy manufacturing and processing, (17) meat processing and distribution, (18) agricultural research foundations, (19) recreation and wildlife, (20) poultry processing and distribution.

A summary of the five supervisory districts of vocational agriculture by types of agri-business organizations was developed. A ranking by the number of employees in each type of agri-business organization was determined to be: (1) agricultural finance, insurance, and real estate, (2) agricultural supplies, and service, (3) livestock industry, (4) agricultural buildings and construction, (5) feed and grain manufacturing, processing and distribution, (6) food manufacturing, processing and distribution, (7) ornamental horticulture and floriculture, (8) agricultural machinery and equipment manufacturing, (9) dairy manufacturing, processing and distribution, (10) forestry manufacturing, processing, and distribution, (11) cotton manufacturing, processing, and distribution, (12) meat processing and distribution, (13) fruit and vegetable processing and distribution, (14) agricultural heavy machinery and equipment, (15) government services, (16) recreation and wildlife, (17) veterinary supplies and service, (18) poultry process-

ing and distribution, (19) kennels, pets, supplies, and service, (20) agricultural research foundations.

Type of Organization Comparison

In analyzing the types of organizations across all the supervisory districts, the following comparisons were indicated. The agricultural finance, insurance, and real estate, and agricultural supplies, service and distribution types of organizations were listed in the top four by the number of employees in all five supervisory district. Livestock industry, service, and distribution was listed in the top six in all districts. Agricultural buildings and construction was at the top of the list in the Northeast District and was ranked twelfth in the Northwest and fifteenth in the Central District. The feed and grain manufacturing, processing and distribution was listed eighth or higher in all districts. Agricultural machinery and equipment manufacturing and distribution was listed in the top nine in all districts, except the Central District, and it was ranked twelfth there. Food manufacturing and processing was ranked in the top seven in the Southeast, Northeast, and Central Districts, but was ranked tenth in the Northwest and eleventh in the Southwest. Ornamental horticulture and floriculture was ranked tenth or higher in all districts.

It appears from the above analysis that agricultural finance, insurance, and real estate; agricultural supplies, service, and distribution; livestock industry, service, and distribution; feed and grain manufacturing, processing, and distribution; food manufacturing, processing, and distribution; ornamental horticulture and floriculture; and agricultural machinery and equipment manufacturing and distribution had

the largest numbers of employees as individual types of agri-business organizations in all vocational agriculture supervisory districts in the State of Oklahoma. It appears that agricultural building and construction had a large number of employees, mainly in the Northeast District; the Southwest and Northwest Districts had more employees in the cotton manufacturing, processing and distribution type of organization. Forestry processing and distribution had more employees in the Southeast District, and the dairy manufacturing, processing and distribution type of organization had more employees in the Northeast and Central Districts.

Cooperative Part-Time Education Programs in Vocational Agriculture

Ninety percent of the employers interviewed stated that they would hire 18-year olds if they were qualified; however, three percent indicated they would hire 18-year olds only if older workers were not available. At this time, only 35 percent of the employers interviewed were employing high school students on a part-time basis. Sixty-eight percent indicated that they would be willing to employ high school students in a training capacity.

Only fifty-four percent of the employers interviewed stated that they were familiar with the cooperative part-time education program in vocational agriculture.

Conclusions

Inspection, analysis, and interpretation of the study findings prompted the formulation of certain conclusions as follows:

Conclusion One

Since the primary purpose of the study was to supply manpower information related to agri-business occupations which may be used for training program expansion or for redirecting existing programs, it appeared that the most emphasis should be placed in the following areas or types of agri-business organizations: (1) agricultural finance, insurance, and real estate, (2) agricultural supplies, service, and distribution, (3) livestock industry, service, and distribution, (4) feed and grain manufacturing, processing, and distribution, (5) food manufacturing, processing, and distribution, (6) ornamental horticulture and floriculture, and (7) agricultural machinery, equipment manufacturing and distribution. Special emphasis should be given to certain types of organizations, such as cotton, forestry, dairy, agricultural buildings and construction in certain districts or areas of the state.

Conclusion Two

The main problem of the study was to determine where off-farm agri-business occupations existed. Off-farm agri-business jobs existed in each district and county in the State of Oklahoma. The type of off-farm agri-business organization varied with the area and district within the state. The number of occupational titles varied by type of organization and within each type of organization.

Conclusion Three

The number of jobs that were available for off-farm agri-business trainees and/or graduates were many. The number and level of the occu-

pational titles varied by supervisory district and by counties within the state.

Conclusion Four

The number of employees currently employed were 23,306. There were 615 additional workers needed now. The annual replacements were 502 and there were 2599 new jobs expected in 1972, 1973, and 1974. Therefore, a training and retraining program in off-farm agri-business occupations is needed.

Conclusion Five

The educational level desired by the employers for the majority of the occupational titles was the high school, vocational agriculture was second, and vocational and technical education was third. The emphasis for the educational training of the youth and adults in Oklahoma should be within these areas.

Conclusion Six

A majority of the employers would hire 18-year olds if they were qualified. Therefore, educational training should be such as to prepare these students for the world of work.

Conclusion Seven

An insufficient number of employers are currently employing high school students on a part-time basis.

Conclusion Eight

Employers are willing to employ high school students in a training capacity.

Conclusion Nine

An insufficient number of employers were familiar with the cooperative part-time education program in vocational agriculture.

Recommendations

On the basis of data obtained for the study, certain general recommendations and recommendations for additional research were developed.

General Recommendations

It is recommended that a feasibility study be made for the purpose of determining the advisability of setting up in-service training for data collectors.

It is recommended that the curricula of all high school, vocational agriculture, and vocational and technical training be reviewed for the purpose of (1) expanding the off-farm agri-business occupations training, (2) emphasizing the continuation of off-farm agri-business occupations training and/or, (3) changing the curriculum to train students to become qualified for the off-farm agri-business occupations. To place a larger percentage of all resources at the high school and post-high school levels of education.

It is recommended that the types of organizations and occupational titles be located by area of the state and identified and that the recommended and necessary training programs be established and implemented

to offer the needed educational programs in off-farm agri-business occupations to train students for the occupational demands within the area.

It is recommended that an increased effort be expended to cause employers to become more cognizant of the need for and benefits of employing high school students in a training capacity.

It is recommended that a special and continued effort be made to inform all employers in all off-farm agri-business types of organizations of the cooperative part-time programs in vocational agriculture.

It is recommended that an off-farm agri-business occupation educational training department be established immediately; that a high school and post-high school training program be implemented promptly.

It is recommended that educational leaders use data from the study for decision making.

It is recommended that teachers of vocational agriculture use data from the study to validate their present program, for program expansion or for the redirecting of the existing programs.

It is recommended that teachers of vocational agriculture use data from the study to provide guidance and counseling services to students in the formulation of educational and career objectives.

Recommendations for Additional Research

Additional areas of research have been suggested by this study. As perceived by the investigator, the more important of these areas would be:

1. A similar type research study should be planned and carried out at least every five years.

2. A continued search of similar research from other states should

be carried on. A sincere effort of cooperation should be established.

3. This being a study similar to a previous study completed in Oklahoma in 1966 by Dr. William W. Stevenson, it is recommended that the two studies be reviewed and synthesized into one study. Make a complete analysis of the synthesized study for further recommendations. Then, use the final study for decision making and plans for another similar study at least five years hence.

4. Research pertaining to additional workers needed, annual replacements, and new jobs for the ensuing three years should be repeated within twelve months.

A. Data needs to be validated.

B. Economy change.

C. Employers may have a different outlook.

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APPENDIX A

Votech
OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

Dear Sir:

The Division of Research, Planning and Evaluation under the direction of the Oklahoma State Department of Vocational and Technical Education is undertaking a research project to determine the manpower requirement in the agricultural industry. To accomplish this necessitates the identification and location of all agricultural businesses in the state of Oklahoma. The manpower information will assist in the planning of programs to adequately serve the agricultural businesses in Oklahoma.

It would be very helpful in the organization of this project, if you could provide us with a list of your members and/or associates in the state of Oklahoma.

I thank you for your cooperation.

Sincerely,

Jesse Mitchell
Research Assistant

JM/dj

APPENDIX B

OFF-FARM AGRICULTURAL MANPOWER SURVEY
VOCATIONAL AGRICULTURE DIVISION
STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

The information requested on this form is a part of a state wide coordinated effort to assist the State Department of Vocational and Technical Education and other training agencies to plan specific programs to meet your manpower needs. Your answers on this form in no way constitute a commitment to employ such workers.

1. NAME OF ORGANIZATION _____

_____

2. MAILING ADDRESS _____
Number and Street Town

_____
County Zip Code

3. _____
Organization Representative Completing This Form

_____
Organization Representative's Title

_____
Organization Representative's Phone and Extension

4. TOTAL NUMBER OF EMPLOYEES AT THIS ORGANIZATION _____

5. WOULD YOU HIRE 18 YEAR OLDS FULL TIME IF THEY ARE QUALIFIED?

☐ YES ☐ ONLY IF OLDER WORKERS ARE NOT AVAILABLE ☐ NO

6. TYPE OF ORGANIZATION (Check "P" Primary and/or "S" Supplementary)

A. _____Agricultural Building and Construction
B. _____Agricultural Finance, Insurance, and Real Estate
C. _____Agricultural Heavy Machinery and Equipment Service and Operation
D. _____Agricultural Machinery and Equipment Manufacturing and Distribution
E. _____Agricultural Supplies, Service and Distribution
F. _____Cotton Manufacturing, Processing and Distribution
G. _____Dairy Manufacturing, Processing and Distribution
H. _____Feed-Grain Manufacturing, Processing and Distribution
I. _____Food Manufacturing, Processing, Service and Distribution
J. _____Forestry Processing and Distribution
K. _____Fruit and Vegetable Processing and Distribution
L. _____Government Services
M. _____Kennels, Pets, Supplies and Service
N. _____Livestock Industry Service and Distribution
O. _____Meat Processing and Distribution
P. _____Ornamental Horticulture and Floriculture
Q. _____Poultry Processing, Service and Distribution
R. _____Recreation and Wildlife
S. _____Veterinary Supplies, Services and Sales
T. _____Others (Specify)

7. Are you now employing high school students part time? _____

Number of boys _____ Number of girls _____ Total _____

8. Are you familiar with the Vocational Cooperative Part-Time Education Program? ☐ Yes ☐ No

9. Would you be willing to employ, in a training capacity, for three or more hours daily, cooperative part-time high school students? ☐ Yes ☐ No

_____
Data Collector

Use back of this sheet for remarks

A. AGRICULTURAL BUILDINGS AND CONSTRUCTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
182.168	Supervisor												
869.138	Foreman												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
013.081	Ag. Engineer												
001.081	Architect												
801.884	Assembler												
861.381	Block-Brick Layer												
660.280	Cabinet Maker												
860.281	Carpenter												
861.381	Concrete Worker												
096.128	Consultant												
182.168	Contractor												
869.887	Construction Worker												
007.281	Draftsman												
829.281	Electrician												
706.884	Erector												
869.884	Fence Builder												
180.118	Fieldman												
521.885	Grader Man												
850.883	Heavy Equip Operator												
869.281	House Builder												
182.287	Inspector, Const.												
863.884	Insulation Worker												
899.381	Maintenance Man												
804.281	Metal Worker												
862.381	Plumber												
863.884	Prefabricator												
866.381	Roofer												
276.358	Salesman												
861.131	Stone Mason												
018.168	Surveyor												
902.883	Truck Driver												
929.138	Warehouse Man												
819.381	Welder												
	Others (Specify)												

B. AGRICULTURAL FINANCE, INSURANCE AND REAL ESTATE

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manger												
182.168	Supervisor												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
250.258	Agent, Insurance												
250.358	Agent, Real Estate												
012.168	Analyst, System												
191.268	Analyst, Credit												
186.288	Appraised, Loan												
191.287	Appraised, Real Est.												
162.158	Broker, Finance												
250.258	Broker, Real Est.												
186.168	Cashier												
241.168	Claim Adjuster												
219.388	Clerk												
186.118	Comptroller												
020.168	Computer Programmer												
249.368	Consultant												
213.138	Data Processor												
186.288	Loan Officer												
219.388	Oper. Office Mach.												
235.862	Oper. PBX Switch-Bd.												
213.582	Punch Card Operator												
237.368	Receptionist												
249.368	Safe-Deposit Clerk												
252.358	Salesman, Fin. Ins.												
251.258	Salesman, Securities												
633.281	Serviceman, Bus Mach.												
018.188	Surveyor												
212.368	Teller												
189.168	Trainee												
	Others (Specify)												

C. AGRICULTURAL HEAVY MACHINERY AND EQUIPMENT, SERVICE AND OPERATION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
182.168	Supervisor												
869.138	Foreman												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
013.081	Ag. Engineer												
850.883	Bulldozer Operator												
469.168	Contractor												
297.458	Demonstrator												
825.381	Electrical Specialist												
850.883	Equipment Operator												
180.118	Fieldman												
621.281	Hydraulic Specialist												
600.280	Machinist												
620.281	Maintanancaman												
625.281	Mechanic, Diesel												
620.281	Mechanic, Regular												
624.281	Partsman												
625.281	Repairman, Sm. Engine												
277.358	Salesman												
624.381	Set-up Man												
904.883	Truck Driver												
922.887	Warehouseman												
819.381	Welder												
	Others (Specify)												

D. AGRICULTURAL MACHINERY AND EQUIPMENT, MANUFACTURING AND DISTRIBUTION
(Includes Irrigation and Livestock)

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
182.168	Supervisor												
869.138	Foreman												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
013.081	Ag. Engineer												
624.781	Assembly Man												
162.158	Buyer												
013.081	Consultant												
292.358	Deliveryman.												
297.458	Demonstrator												
007.081	Designer												
031.081	Draftsman												
829.281	Electrician												
180.118	Fieldman												
624.381	Inspector, Tester												
422.887	Irrigator												
624.884	Lubricant Specialist												
638.281	Maintenanceman												
625.281	Mechanic, Diesel												
624.281	Mechanic, Regular												
409.883	Operator, Equipment												
285.358	Partsman												
625.281	Repairman, Sm. Engine												
277.358	Salesman, Trac.-Imp.												
276.358	Salesman, Irr. Equip.												
422.887	Serviceman, Irr.												
624.281	Serviceman, Mchy.												
624,381	Set-up Man												
620.281	Tractor Mechanic												
922.887	Tractor Mech. Helper												
922.887	Warehouseman												
819.381	Welder												
922.887	Yardman												
	Others (Specify)												

E. AGRICULTURAL SUPPLIES, SERVICES, AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
529.138	Supt. Elevator												
182.168	Supervisor												
559.138	Foreman												
187.168	Director												
210.382	Bookkeeper												
210.---	Office Personnel												
040.381	Analyst, Seed												
424.883	Applicator												
250.258	Broker												
929.887	Bulk Distributor												
162.158	Buyer												
551.885	Cleaner, Seed												
162.158	Commissionman, L.S.												
013.081	Consultant												
409.883	Contractor, Equip.												
469.158	Contractor, Harv-Hanl.												
297.458	Demonstrator-Display												
409.883	Equipment, Operator												
389.884	Exterminator												
293.358	Fieldman, Assoc.												
180.118	Fieldman, Supplies												
589.884	Grader												
523.884	Grain Drier												
624.281	Mechanic												
599.885	Millworker												
520.885	Mixer, Feed-Fert.												
077.128	Nutritionist												
521.782	Operator, Feedmill												
529.782	Processor												
277.358	Salesman												
638.281	Serviceman												
012.168	Technician												
906.883	Truck Driver												
929.138	Warehouseman												
812.884	Welder												
	Others (Specify)												

F. COTTON MANUFACTURING, PROCESSING AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
182.168	Supervisor												
180.168	Supt., Production												
529.137	Foreman												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
162.158	Broker												
162.158	Buyer												
469.387	Classer												
292.358	Deliveryman												
297.458	Demonstrator												
409.883	Equipment Operator												
180.118	Fieldman												
461.885	Ginner												
468.387	Grader												
620.281	Maintenenceman												
620.281	Mechanic												
461.885	Millworker												
599.885	Pressman												
529.782	Processor												
263.---	Salesman												
680.---	Textile Specialist												
905.883	Truck Driver												
920.885	Warehouseman												
812.884	Welder												
471.137	Yardman												
	Others (Specify)												

G. DAIRY MANUFACTURING, PROCESSING AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
182.168	Supervisor												
184. 168	Supt. Cold Storage												
529.138	Foreman												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
523.885	Batch Freezer												
162.158	Broker												
529.782	Butter Maker												
529.886	Buyer												
529.381	Cheese Maker												
522.782	Cottage Cheese Maker												
292.358	Deliveryman												
297.458	Demonstrator												
529.782	Equipment Operator												
162.158	Fieldman												
529.782	Freezerman												
529.387	Grader												
638.281	Maintenanceman												
529.782	Processor												
040.081	Product Technician												
222.687	Receiver, Milk												
277.251	Salesman, Machines												
277.358	Salesman, Supplies												
231.687	Shipper												
469.381	Tester												
906.883	Truck Driver												
920.885	Warehouseman												
	Others (Specify)												

H. FEED AND GRAIN MANUFACTURING, PROCESSING AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
521.---	Manager												
529.138	Supervisor, Elev.												
529.132	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
040.381	Analyst, Seed												
162.158	Broker												
162.168	Buyer												
469.168	Contractor, Hauling												
013.581	Consultant												
521.886	Custom Feed Mill Oper.												
292.358	Deliveryman												
389.138	Exterminator												
409.883	Equipment Operator												
921.883	Elevator Worker												
520.886	Feed Mixer												
180.118	Fieldman												
521.885	Floorman												
521.885	Grader												
523.885	Grain Drier												
521.885	Grinder												
620.281	Mechanic												
521.782	Mobile Feed Mill Oper.												
521.782	Mill Operator												
521.782.	Mixer												
077.128	Nutritionist												
521.885	Processor												
262.358	Salesman												
523.885	Seed Cleaner												
921.883	Store Worker												
029.381	Tester												
904.883	Truck Driver												
922.887	Warehouseman												
521.885	Utilityman												
	Others (specify)												

I. FOOD MANUFACTURING, PROCESSING, SERVICE AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.168	Manager												
319.138	Supervisor												
184.168	Supt. Cold Storage												
180.168	Supt. Can & Preserv.												
526.138	Foreman, Bakery												
523.137	Foreman, Preparation												
210.388	Bookkeeper												
210.---	Office Personnel												
526.781	Broker												
162.158	Buyer, Produce												
529.886	Cannery Worker												
187.168	Caterer												
216.488	Checker, Food												
314.381	Chef												
315.381	Cook												
261.158	Commissionman												
523.885	Dehydrator												
292.358	Deliveryman												
297.458	Demonstrator												
077.168	Dietitian												
529.782	Equipment Operator												
180.118	Fieldman												
313.781	Freezing Worker												
529.387	Grader												
899.381	Maintenanceman												
920.886	Packageing Worker												
523.137	Preparation Worker												
529.131	Processor												
522.884	Pickler												
222.587	Receiver												
290.887	Salesperson												
292.358	Salesman, Driver												
262.358	Salesman, Food Prods.												
529.687	Sorter, Produce												
906.883	Truck Driver												
920.885	Warehouseman												
	Others (Specify)												

J. FORESTRY PROCESSING AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
442.168	Manager												
180.168	Supt., Logging												
949.137	Foreman												
210.338	Bookkeeper												
210.---	Office Personnel												
760.884	Box Maker												
183.168	Buyer, Lbr.-Log												
660.280	Cabinet Maker												
860.381	Carpenter												
183.168	Contractor												
449.287	Cruiser												
292.358	Deliveryman												
005.281	Draftsman												
409.883	Equipment Operator												
162.158	Fieldman												
441.168	Fire Lookout												
040.081	Forester												
763.884	Furniture Maker												
941.387	Grader, Log												
669.587	Grader, Lbr.												
869.281	House Builder												
449.287	Inspector												
561.887	Lumber-Pole Treater												
638.281	Maintenanceman												
942.387	Marker,Log												
620.281	Mechanic,Equip												
669.380	Millman												
780.381	Repairman, Furn.												
281.358	Salesman												
941.448	Scaler, Log												
667.782	Sawyer, Log												
409.883	Tractor Operator												
904.883	Truck Driver												
922.887	Warehouseman												
812.884	Welder												
441.384	Woods Rider												
461.137	Yardman												
	Others (Specify)												

K. FRUIT AND VEGETABLE PROCESSING AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Voc. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.168	Manager												
182.168	Supervisor												
529.138	Foreman												
187.168	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
162.158	Broker												
162.158	Buyer												
529.886	Canner												
261.158	Commissionman												
529.886	Dehydrator												
292.358	Deliveryman												
523.885	Drier												
409.883	Equipment Operator												
180.118	Fieldman												
529.782	Freezerman												
529.387	Fruit-Buying Grader												
521.885	Grader												
168.284	Inspector												
620.281	Maintenanceman												
920.886	Packaging Man												
522.884	Pickler												
529.886	Preparation Man												
529.886	Presevation Man												
529.782	Processor												
222.687	Receiver												
262.358	Salesman												
231.687	Shipper												
529.687	Sorter, Produce												
184.168	Supt. Cold Storage												
906.883	Truck Driver												
920.885	Warehouseman												
	Others (Specify)												

L. GOVERNMENT SERVICES (ASCS,FHA,FLB,SCS, EXPERIMENTAL STATIONS, FOUNDATIONS,ETC.)

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
---.---	Manager												
168.168	Supervisor												
---.---	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
241.168	Adjuster												
191.288	Appraiser												
180.168	Airplane Pilot												
407.887	Caretaker, Camp-Park												
182.168	Contractor												
007.281	Draftsman												
529.782	Equipment Operator												
249.368	Fieldman												
441.887	Fire Fighter												
441.168	Fire Lookout												
441.687	Fire Patrolman												
409.887	Flagman												
441.384	Forest Aid												
529.782	Freezer Man												
168.287	Grader, Poultry												
168.287	Grain Inspector												
452.868	Guide, Hunt-Fish												
413.684	Inspector, Brand												
168.287	Inspector, Ind. Waste												
073.181	Inspector, Livestock												
168.284	Inspector, Meat												
073.281	Inspector, Virus-Serum												
007.281	Map Maker												
379.887	Milk Sampler												
219.388	Office Machine Oper.												
169.168	Park Ranger												
040.081	Soil Conservationist												
018.168	Surveyor												
906.883	Truck Driver												
379.168	Warden, Fish-Game												
920.885	Warehouseman												
	Others (Specify)												

M. KENNELS, PETS, SUPPLIES AND SERVICE

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW M	NUMBER EMPLOYED NOW F	ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED: Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	NEW JOBS '72	73	74
356.138	Manager												
356.---	Supervisor												
356.---	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
356.874	Animal Keeper												
162.158	Buyer												
356.884	Caretaker												
189.158	Consultant												
292.358	Deliveryman												
356.874	Dog-Pound Attendant												
451.181	Game Keeper												
356.874	Groomer												
356.874	Kennelman												
040.081	Nutritionist												
289.358	Sales Person												
073.318	Technician												
159.228	Trainer												
906.883	Truck Driver												
	Others (Specify)												

N. LIVESTOCK INDUSTRY SERVICE AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
183.118	Supervisor												
413.131	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
424.883	Applicator												
467.384	Art. Breeding Tech.												
294.258	Auctioneer												
162.158	Broker												
261.158	Commissionman												
182.168	Contractor												
297.458	Demonstrator												
159.348	Equestrian												
409.883	Equipment Operator												
389.884	Exterminator												
356.381	Farer (Horse Shoer)												
413.181	Feed Lot Worker												
180.118	Fieldman												
521.885	Grader												
411.181	Herdsman												
153.288	Horse Trainer												
073.181	Inspector												
073.381	Lab Technician												
466.887	Livestock Caretaker												
624.281	Machinery Repairman												
040.081	Nutritionist												
132.---	Reporter												
261.258	Salesman												
529.687	Sorter												
466.887	Stable Hand												
261.258	Stockyards Employee												
419.884	Trainer												
904.883	Truck Driver												
929.138	Warehouseman												
466.887	Weighmaster												
413.887	Yardman												
	Others (Specify)												

O. MEAT PROCESSING AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
183.118	Manager												
579.138	Supervisor												
525.130	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
525.381	Butcher												
316.884	Butcher, Chick. Fish												
162.158	Buyer												
525.884	By-Prods. Worker												
184.168	Cold Storage Worker												
292.358	Deliveryman												
297.458	Demonstrator												
526.782	Dog-Cat Food Worker												
525,387	Grader												
168.284	Inspector												
922.887	Locker-Plant Worker												
521.885	Machine Operator												
899.281	Maintenanceman												
316.884	Meat Cutter												
521.884	Offal Man												
525.887	Poultry Dresser												
525.887	Processor												
262.358	Salesman												
521.887	Sausage-Meat Trimmer												
525.884	Slaughterhouse												
521.782	Smoker												
525.887	Tanner												
904.883	Truck Driver												
929.138	Warehouseman												
	Others (Specify)												

P. ORNAMENTAL HORTICULTURE AND FLORICULTURE

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng. High School	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
040.081	Manager												
162.158	Supervisor												
223.368	Foreman												
166.118	Director												
210.388	Bookkeeper												
210.---	Office Personnel												
582.887	Applicator												
162.158	Buyer												
292.358	Deliveryman												
297.458	Demonstrator												
298.281	Displayer												
019.281	Draftsman, Landscape												
424/883	Duster-Sprayer												
409.883	Equipment Oper.												
142.081	Floral Designer												
465.884	Fumigator, Orchard												
638.281	Garden Center Mech.												
406.887	Garden Center Worker												
406.168	Greenhouseman												
407.137	Grounds Keeper												
019.081	Landscape Architect												
407.181	Landscape Consultant												
406.168	Nurseryman												
406.887	Nursery Worker												
407.887	Parks Worker												
406.168	Propagationist												
404.884	Pruner												
277.358	Salesman, Equipment												
289.358	Salesman, Supplies												
260.458	Salesperson												
638.281	Serviceman												
231.687	Shipper												
409.181	Tree Surgeon												
906.883	Truck Driver												
922.887	Warehouseman												
	Others (Specify)												

Q. POULTRY PROCESSING, SERVICE AND DISTRIBUTION

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
412.168	Manager												
183.118	Supervisor												
412.137	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
467.384	Blood Tester												
162.158	Buyer												
412.687	Chicken Sexer												
412.687	Chick Grader												
429.228	Consultant-Advisor												
292.358	Deliveryman												
529.687	Egg Candler												
409.883	Equipment Operator												
429.228	Fieldman												
529.687	Grader, Dressed												
168.287	Grader,Processed												
528.387	Grader, Live												
436.884	Hatcheryman												
467.384	Inseminator												
168.287	Inspector												
529.887	Killer												
412.181	Layer House Worker												
922.887	Locker Plant Worker												
620.281	Mechanic												
412.887	Poultry Debeakar												
412.181	Poultryman, Egg												
412.181	Poultryman, Meat												
525.887	Processor												
277.358	Salesman, Supplies												
262.358	Salesman, Products												
412.387	Technician												
906.883	Truck Driver												
412.884	Vaccinator												
929.138	Warehouseman												
	Others (Specify)												

R. RECREATION AND WILDLIFE

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED						NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74
---.---	Manager												
187.168	Supervisor, Recrea.												
188.168	Supervisor, Park												
407.134	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
356.138	Animal Keeper												
341.368	Attendant												
356.874	Caretaker, Animal												
860.781	Carpenter												
292.358	Deliveryman												
829.133	Electrician												
159.348	Equestrian												
389.884	Exterminator												
419.884	Game Farm Worker												
451.181	Gamekeeper												
407.884	Groundskeeper												
356.874	Kennelman												
891.138	Maintenanceman												
406.168	Nurseryman												
407.868	Park Caretaker												
407.887	Park Worker												
862.381	Plumber												
341.368	Recreation Worker												
159.228	Trainer												
906.883	Truck Driver												
812.884	Welder												
	Others (Specify)												

S. VETERINARY SUPPLIES, SERVICES AND SALES

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW M	NUMBER EMPLOYED NOW F	ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED Grade School	High School	High School Vo. Ag. Trng.	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	NEW JOBS 72	73	74
---.---	Manager												
---.---	Supervisor												
---.---	Foreman												
210.388	Bookkeeper												
210.---	Office Personnel												
356.874	Animal Caretaker												
467.384	Art. Breeding Tech.												
356.874	Assistant, Vet												
356.874	Attendent												
162.158	Buyer												
292.358	Deliveryman												
297.458	Demonstrator												
409.883	Equipment Operator												
356.874	Groomer												
356.381	Horseshoer												
168.287	Inspector												
356.874	Kennelman												
073.318	Lab. Technician												
180.118	Representative, Prod.												
282.358	Salesman, Supplies												
219.388	Shipping Dept. Worker												
223.387	Stockboy												
159.228	Trainer												
040.381	Technician												
906.883	Truck Driver												
929.138	Warehouseman												
	Others (Specify)												

T. OTHERS (SPECIFY)

DOT CODE	OCCUPATIONAL TITLE	NUMBER EMPLOYED NOW		ADDITIONAL WORKERS NEEDED NOW	EDUCATIONAL LEVEL REQUIRED							NEW JOBS		
		M	F		Grade School	High School	Vo. Ag. Trng.	High School	Voc. Tec. Trng.	2-year College Degree	4-year College Degree	72	73	74

APPENDIX C

Votech
OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

MEMORANDUM January 15, 1971

TO: Selected Vocational Agriculture Teachers

FROM: Jesse Mitchell, Research, Planning and Evaluation

SUBJECT: Program Outline and Survey Instructions

The following are the basic steps of the program outline and some pointers in filling out the questionnaires. I personally feel that you guys do not need any advice from me, but the wheels from higher up suggested that I do this - so if I bring out a point or two that will be helpful to only one or two, then no doubt it is worthwhile.

I. Present and explain the study and questionnaire forms to each District Vocational Agriculture Teachers' meeting at the Mid-Winter Conference in Oklahoma City, January 9, 1971. (This was done.)

II. Each county will hold a meeting of all Vocational Agriculture Teachers and elect a county chairman. (This has been done.)

III. The duties of the county chairman will be as follows:

1. Organize and coordinate the activities of the agriculture teachers in making an accurate, complete and valid survey.

2. Organize the data collecting activities so that the job will not be an extra burden on anyone. Take into consideration the area to be surveyed, the available time and the interest of each teacher.

3. Coordinate the program with the state coordinator.

4. See that the needed survey forms are requested from the State Coordinator on or before January 20, 1971 (if you have not already done so).

5. See that each teacher has the necessary survey forms, directions, etc.

6. Work with the individual teachers when needed to assure that all agri-related agencies, business and/or industries

are contacted and that all forms are filled out accurately.

7. Collect, check over and mail all completed survey forms to the State Coordinator on or before March 1, 1971.

IV. Get the necessary forms to each county chairman as soon as possible. (This is being done.)

Survey Forms

First Page

1. Self-Explanatory
2. Self-Explanatory
3. Self-Explanatory
4. Self-Explanatory
5. Self-Explanatory
6. Type of Organization

Be sure to designate the primary "P" business of each organization interviewed and for those which have supplementary "S" enterprises, indicate in the proper space also. Example: A grocery store - the main or primary business is retail groceries, but they may also have a meat department and flower shop or a veterinary supply department. Simply place a "P" in the blank at the left of the type organization for the primary business and an "S" in the blank(s) indicating the supplementary business.

7. Self-Explanatory
8. Self-Explanatory
9. Self-Explanatory

Be sure to sign the form in the space designated "Data Collector" (for reasons which should not be necessary to explain).

Pages A through S

This is self-explanatory, I believe. Simply write the number obtained at the time of the interview under the appropriate heading at the top of each page and at the right of the occupational titles in the appropriate blank.

It is important to add to the list any occupations which apply to the type of organization under consideration which are not listed.

Page T

This is to be used only in the event a type of organization is encountered which does not fit under any of the types of organizations. It must be a business and must be agriculturally related.

Each agency, business or industry interviewed must have at least two pages of the questionnaire filled out (the first sheet and one other).

In some instances there may be more than two sheets - for example, in the case of an elevator which has as the primary business feed and grain but also has the supplementary enterprises of fertilizer, veterinary supplies, custom spraying, etc. This interview would most likely require the Supplies and Service sheet and the Veterinary sheet.

Any agency, business and/or industry surveyed should fit under one or more of the types of organizations listed (A-S). It must be a business which has the potential for training stations in off-farm agricultural occupations or offers an opportunity for immediate or future employment in the area of agri-related occupations.

As you perform the duties of collecting the data, I am sure you will notice changes which should be made in the questionnaire and procedure and/or you may receive constructive criticism. It is important that you write these on the back of the first sheet. This information will be valuable in making future plans.

Let me know when I can help you.

Sincerely,

Jesse Mitchell

JM:ph

P.S. Note: Watch the newspapers for a news article on this study.

APPENDIX D

Votech OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

MEMORANDUM October 8, 1970

TO: Selected Vocational Agriculture Teachers

FROM: Francis Tuttle, State Director, Vocational and Technical Education

SUBJECT: Research: Data Collection on Off-Farm Agricultural Occupations

As most of you know, we have a constant problem of justifying vocational agriculture instruction to certain people who are not informed about the vocational agriculture programs. Some people continue to believe that there is no longer any need to teach vocational agriculture. Obviously, they are not informed and do not understand that agriculture is the number one industry in Oklahoma. Neither do they understand that the off-farm occupations have increased to such an extent that they are a very important part of the field of agriculture. In fact, when you put together the jobs that are available in either farming or related off-farm agriculture occupations, the number of people required is just as great today as it ever was.

Mr. Jesse Mitchell, who is working part time as a member of our staff and doing graduate work part time, has been assigned the task of collecting information on off-farm agricultural occupations. We hope that the vocational agriculture teachers in Oklahoma will cooperate with him and help him collect this information. When the information is collected, it will be a further justification for the need for vocational agriculture programs; and I know that you will want to cooperate and help in establishing this need.

This letter is my way of informing you that this is not just another study but one that is necessary for our information and perhaps for the justification of new agriculture programs.

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

MEMORANDUM

October 12, 1970

TO: Selected Off-Farm Agricultural Businesses

FROM: Francis Tuttle, State Director, Vocational and Technical Education

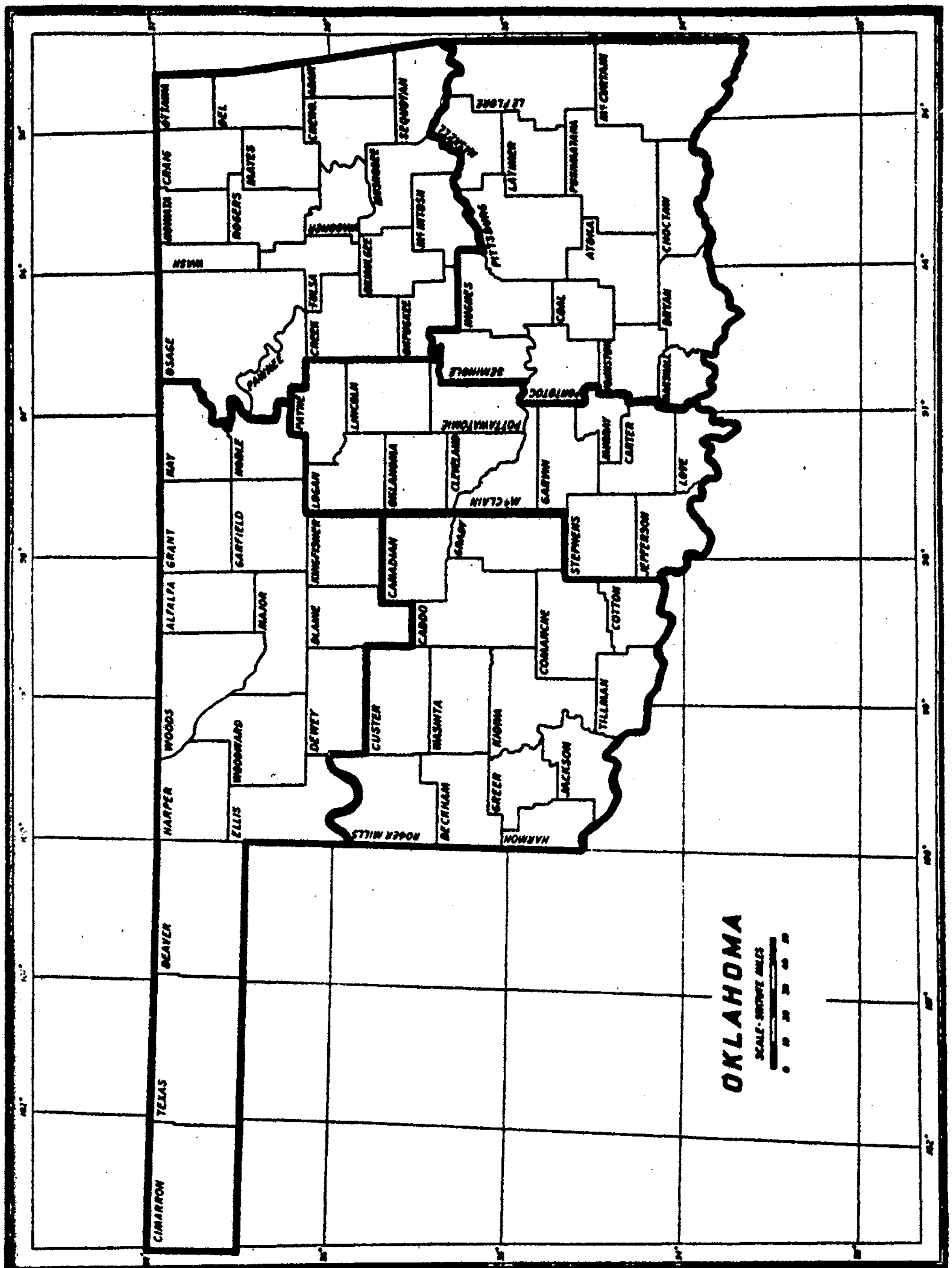
SUBJECT: Study of Manpower Needs in Off-Farm Agricultural Businesses

Vocational Agricultural teachers across the state are conducting surveys in their own and surrounding local communities to determine the number and types of employees needed in Off-Farm Agricultural businesses. The purpose of this study is to provide information which will make it possible for your local department of Vocational Agriculture and the State Department of Vocational and Technical Education to better meet the training needs of persons who wish to enter the types of businesses represented.

A compilation of the data gathered from a number of different types of businesses across the state will enable those of us in Vocational and Technical Education to more effectively plan the programs most critically needed by business and industry in Oklahoma.

I hope that you will take the time necessary to respond to the questions which the bearer of this letter needs in order to complete his portion of the study. I assure you that the information given will be handled confidentially and will be of great assistance to us.

Thank you for your cooperation.


OKLAHOMA
CIMARRON
TEXAS
BEAVER
HARPER
WOODS
ALFALFA
GRANT
KAY
OSAGE
ELLIS
WOODWARD
MAJOR
GARFIELD
NOBLE
PAWNEE
DEWEY
BLAINE
KINGFISHER
LOGAN
LINCOLN
CREEK
TULSA
ROGERS
MAYES
CRAIG
SEQUOYAH
ROGER MILLS
BECKHAM
HARMON
GREER
JACKSON
KIOWA
WASHITA
CUSTER
CADDO
CANADIAN
GRADY
COMANCHE
TILLMAN
COTTON
STEPHENS
JEFFERSON
LOVE
CARTER
GARVIN
CLEVELAND
POTTAWATOMIE
SEMINOLE
HUGHES
COAL
ATOKA
BRYAN
CHOCTAW
PUSHMATAHA
LATIMER
PITTSBURG
LE FLORE

VITA

Jesse B. Mitchell

Candidate for the Degree of

Doctor of Education

Thesis: EMPLOYMENT OPPORTUNITIES AND EDUCATIONAL NEEDS IN OFF-FARM AGRI-BUSINESS OCCUPATIONS IN OKLAHOMA

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Hartshorne, Oklahoma, December 15, 1920, the son of Essie E. and Alza B. Mitchell.

Education: Graduated from Hartshorne High School, Hartshorne, Oklahoma in May, 1939; graduated from Eastern Oklahoma Agricultural and Mechanical College, Wilburton, Oklahoma, 1941; received the Bachelor of Science degree from Oklahoma State University in 1948 with a double major in Agricultural Education and Animal Science; received the Master of Science degree from Oklahoma State University, with a major in Agricultural Education, in July, 1970; the requirements for the Doctor of Education degree will be completed in July, 1971, in Agricultural Education, with major fields of study in Vocational and Technical Education, Occupational and Adult Education, and Educational Administration at Oklahoma State University.

Professional Experience: Instructor, Vocational Agriculture, Freedom, Verden and Frederick, Oklahoma Public Schools, 1948 through 1953; served as Executive Secretary for the Georgia Hereford Association, Inc., from 1953 to 1955; served as General Manager, Callaway Hereford Farms, Hamilton, Georgia, from 1955 to 1961; Owner and Manager, Mitchell's Western Wear and Livestock Supplies, Columbus, Georgia, from 1961 to 1969; Research Assistant, Division of Research, Planning and Evaluation of the Oklahoma State Department of Vocational and Technical Education from 1970 to 1971.