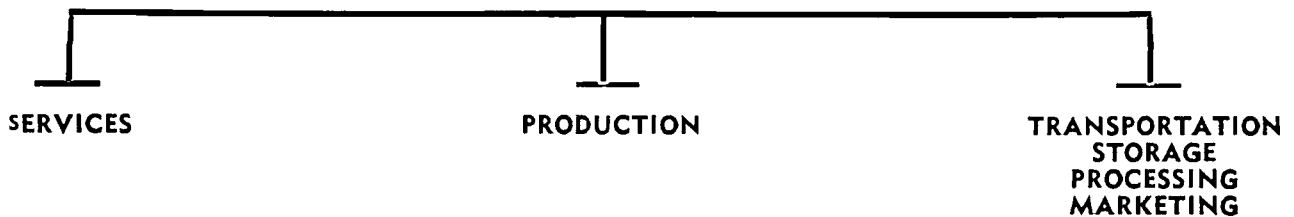


# A Counseling Aid to Agribusiness Opportunities in AGRICULTURE



Editor's Note. The following is a printing in toto of a bulletin prepared by Dean Lloyd Dowler of Fresno State College for distribution in California. It is recongnized that this cannot be used throughout the country without its being adapted for local conditions, but the quality is so good that it is felt by the editorial staff of the *Journal* that it would be useful as a guide to all NACTA members. It is therefore printed here for that purpose.

## AGRIBUSINESS OPPORTUNITITES

This publication is intended to provide information for the high school counselor about career opportunities in agriculture and its related fields more commonly referred to as **Agribusiness**. The word Agribusiness is a new word in our agriculture vocabulary. John H. Davis and Roy A. Goldberg, of the Division of Research, Graduate School of Business Administration, Harvard University, coined this new word to describe the interrelated functions of agriculture and business. By definition, Agribusiness means "the sum total of all operations involved in the manufacture and distribution of farm supplies; production operations on the farm; and the storage, processing, and distribution of farm commodities and items made from them." The biggest demand for college graduates with degrees in agriculture is to work in these service areas on either side of production agriculture. It is hoped that this material will provide some of the answers to the many questions asked by young people about career opportunities in this field.

### What Is The Need?

It is most important that counselors understand the real need for trained technicians in Agribusiness if we are to be successful in recruiting the necessary manpower for the agriculture industry in the future. There is no longer sufficient farm youth available to meet the demand

for trained technicians in agriculture. The colleges are, therefore, dependent upon high school counselors, classroom teachers from all subject matter areas, vocational agriculture teachers, 4-H Club leaders, farm advisers, and other youth leaders to acquaint the city youth with the excellent job opportunities in Agribusiness. Colleges across the nation have been unable to meet the demand made of them by Agribusiness industries for agricultural graduates. There have been more jobs available than we have had graduates to fill the jobs. Land Grant colleges are turning out between 8,000 and 9,000 graduates with bachelor of science degrees in agriculture annually. There is a need for a much larger number, approximately 15,000.

### A Challenge For The Superior Student

There is a need for the best minds we can recruit to work in such fields as agricultural chemistry, entomology, plant and animal physiology, soil physics, animal and plant nutrition, and veterinary medicine. Research in all phases of the Agribusiness industry is dependent upon top quality students. With an ever increasing population there will be a greater need for more food and fiber to feed and clothe our people.

### The Agribusiness Angle

In California approximately 6 per cent of our population is engaged in production agriculture whereas in the United States 8 per cent live on farms. With the decline in the number of people engaged in farming and with the size of the farms getting larger and more mechanized, more services must be provided for the farmer which creates more opportunities in the field of agricultural sales and marketing. Data supplied by the California Council of Growers indicates that one out of every three jobs in California is dependent upon agriculture. The San Joaquin Valley and the Central Valley regions are two of the most

important areas for job opportunities. The chemical, seed, and farm implement companies, and the many processing and marketing agencies serving the farmer have offices in these areas where they are closer to the farmer offering services he must have to grow his crops or livestock. Our large centers of population, such as Los Angeles, San Diego, and San Francisco, serve as headquarters for many of our financial agencies, cooperatives, feed companies, farm implement companies, terminal markets, and processing firms. All of these firms are asking for more and better qualified personnel to work as clerks, buyers, fieldmen, senior executives in plant management, sales personnel, bookkeepers, accountants, engineers, and economists who must have a working knowledge of agriculture.

With this picture clearly in our minds we can see that there is likely to be some kind of job opportunity in some phase of Agribusiness for almost any boy or girl.

#### Major Fields Of Study

High school students should be informed that colleges offering agriculture have programs or curriculums designed to provide the kind of background necessary to qualify graduates for work assignments in any one of the more than 500 job titles. These programs are usually referred to as majors or options in such fields of study as Agribusiness, Agronomy, Agricultural Mechanics, Agricultural Engineering, Agricultural Inspection and Services, Animal Husbandry, Dairy Science including Dairy Husbandry and Dairy Industry ((manufacturing), Enology, Food Technology, General Agriculture, Horticulture, Ornamental Horticulture, Teacher Education, Farm Management, Soils, Agricultural Economics, Poultry Husbandry, and Viticulture. There are others, but these are the most common fields of study which provide the type of training to qualify young people for the kind of jobs that most frequently exist in our agricultural industry in California.

Frequently students ask, "what kind of a job may I expect to get if I complete a four-year program in agriculture with a major in any one of these fields of study?" Fresno State College has conducted a survey of its more than 1,000 agricultural graduates to help you provide answers to questions of this kind. The job titles listed here are grouped under a major field of study with the title underlined. The agencies served are identified after the title.

#### AGRIBUSINESS MAJOR, ANIMAL SCIENCE OPTION

**Agricultural Salesman or Fieldman:** Feed manufacturing and meat processing companies; livestock marketing associations; and pharmaceutical companies.

**Appraiser:** Banks; insurance companies; real estate agencies; loan associations.

**Farm Loan Officer:** Banks; loan associations.

**Manager:** Dairy manufacturing plant; poultry processing plant; feed lots; feed mills; livestock ranches.

#### AGRIBUSINESS MAJOR, AGRICULTURE MECHANICS OPTION

**Agricultural Salesman or Fieldman:** Farm machinery and farm implement companies.

**Executive Secretary:** Farm implement dealers association.

**Manager:** General farm enterprises; farm machinery companies.

**Plant Superintendent:** Food handling equipment

**Farmer:** General farming, self-owned or partnership.

#### AGRIBUSINESS MAJOR, PLANT SCIENCE OPTION

**Agricultural Salesman or Fieldman:** Chemical, pesticide, fertilizer, and seed companies.

**Gin Manager:** Cotton ginning plants.

**Plant Manager:** Chemical, pesticide, and seed companies.

**Appraiser:** Banks; insurance companies; real estate agencies.

**Agricultural Credit Manager:** Chemical and seed companies.

**Farm Property Appraiser:** Government agencies; real estate firms.

**Investigator:** Government (marketing enforcement).

**Assistant Marketing Specialist:** U. S. D. A., fruits and vegetables; State, hay and grain.

**Market Data Compiler:** Government agencies

**Marketing Economist:** Government agencies.

#### ANIMAL HUSBANDRY MAJOR

**Vocational Agriculture Instructor:** California high schools.

**Cattle Buyer:** Meat processing plants, such as Swift & Co. and Armour Co.

**Ranch Foreman:** Purebred and commercial cattle firms.

**Beef Cattle Herdsman:** College purebred breeders.

**Fieldman:** Breed associations; feed companies.

**Meat Inspector:** U. S. D. A. ; State Department of Agriculture.

**Rancher:** Self-owned or partnership.

**Manager.** Livestock sales yard, Farm Bureau.

**Hog Ranch Operator:** State agencies such as colleges, hospitals, and corrective institutions.

**Nutritionist:** Feed companies such as Purina, General Mills, Poultry Producers.

**Veterinarian:** Private; State Department of Agriculture; U. S. D. A.

**Range Conservationist:** State and Federal soil conservation services; forestry, wildlife management.

**Field Agent:** Southern Pacific Land Co., Santa Fe, Union Pacific, and other railroads.

**Food Technologist:** Food processing; meat research with colleges; meat processing firms.

**Animal Physiologist:** State Department of Agriculture; U. S. D. A.

**Brand Inspector:** Government agencies, State and Federal.

**Livestock Specialist:** Extension Service-University of California; other Land Grant universities.

**Professor of Animal Husbandry:** College teaching.

#### DAIRY SCIENCE MAJOR, DAIRY HUSBANDRY OPTION

**Dairy Farmer:** Self-owned or partnership.

**Dairy Inspector:** Federal, State, or County agencies.

**Dairy Herdsman:** Purebred dairy; commerical dairyman; State institutions; colleges.

**Dairy Extension Specialist:** Extension Service-University of California; other Land Grant universities.

#### DAIRY SCIENCE MAJOR, DAIRY HUSBANDRY OPTION

**Dairy Farmer** Self-owned or partnership.

**Dairy Inspector:** Federal, State, or County agencies

**Dairy Herdsman:** Purebred dairy; commerical dairyman; State institutions; colleges.

**Dairy Extension Specialist:** Extension Service-University of California; other Land Grant universities.

**Vocational Agriculture Instructor:** California high schools.

**Professor of Dairy Husbandry:** College teaching.

**Animal Physiologist:** Artificial insemination associations.

**Dairy Nutritionist:** Large dairies; feed companies.

**Inseminator:** Artificial insemination services.

**Fieldman:** Breed association such as Holstein, Guernsey, Jersey, etc.

**Salesman:** Dairy equipment companies.

**Sanitarian:** County health departments.

**Tester:** Dairy Herd Improvement Association.

#### DAIRY SCIENCE MAJOR, DAIRY INDUSTRY OPTION

**Superintendent:** Dairy plant.

**Manager:** Ice cream division in dairy plant; dairy processing plant.

**Market Milk Inspector:** County health departments.

**Sanitarian:** County health departments

**Research Assistant:** University teaching.

**Professor of Dairy Industry:** College teaching.

**Laboratory Technician:** Creamery plant.

#### POULTRY HUSBANDRY MAJOR

**Vocational Agriculture Instructor:** California high schools.

**Poultry Farmer:** Self-owned commerical egg production.

**Turkey Farmer:** Self-owned turkey raiser.

**Hatcheryman:** Privately owned hatcheries; commerical hatcheries such as Swift & Co.

**Manager:** Poultry processing plant; feed company; poultry or turkey farm.

**Fryer Operator:** Self-owned or manager of large scale fryer operation.

**Fieldman:** Feed companies; poultry supply houses.

**Geneticist:** Poultry breeding establishments.

**Nutritionist:** Manufactures of poultry and turkey feeds.

**Salesman:** Poultry equipment.

**Poultry Extension Specialist:** Extension Service-University of California; other Land Grant universities.

**Professor of Poultry Husbandry:** College teaching.

#### AGRICULTURE MECHANICS MAJOR

**Salesman:** Farm equipment and pump companies.

**Farm Manager:** Kern Land & Cattle Co., J. B. Boswell Co., etc.

**Maintenance Engineer:** Fertilizer company.

**Farmer:** General farming, self-owned or partnership.

**Right-of-way Agent.** California Division of Highways.

**Mechanic.** Farm equipment company.

**Parts Man:** Farm equipment companies.

**Assistant Construction Supervisor:** Fertilizer companies.

**Vocational Agriculture Instructor:** California high schools.

**Research Assistant:** Extension Service and colleges.

**Professor of Agricultural Mechanics:** College teaching.

**Farm Equipment Operator:** State colleges; State institutions such as hospitals and corrective agencies where farms are maintained.

**Farm Equipment Mechanic:** Colleges; highway departments

**Agricultural Engineer:** Bureau of Reclamation, U. S. D. A.; California Department of Water Resources; farm implement companies; food processing and packaging companies.

#### AGRONOMY MAJOR

**Farmer:** Self-owned or partnership.

**Salesman:** Sprinkler irrigation, chemical, irrigation pipe, and seed companies.

**Conservationist:** U. S. D. A.; State Department of Agriculture.



**Farm Planner & Surveyor:** U. S. D. A.  
**Fieldman:** Grower's associations such as alfalfa, vegetable seed, cotton seed distributors, etc.  
**Inspector:** U. S. D. A., State and County agriculture departments.  
**Agronomist:** U. S. D. A., J. G. Boswell Co., Newhall Land & Farming Co., and other large corporate farms.  
**Assistant Agronomist:** Research stations such as U. S. D. A. and State experimental stations.  
**Assistant Field Superintendent:** Sugar and seed companies.  
**Branch Manager:** Chemical and seed companies.  
**Gin Manager:** Cotton companies, privately owned and cooperative.  
**Research Assistant:** California Packing Corporation.  
**Plant Pathologist:** State Department of Agriculture; U. S. D. A.; colleges.  
**Entomologist:** Seed and chemical companies; U. S. D. A.; State Department of Agriculture; colleges.  
**Plant Physiologist:** U. S. D. A.; State Department of Agriculture; colleges.  
**Extension Specialist:** Extension Service-University of California; other Land Grant universities.  
**Professor of Agronomy:** College teaching  
**Vocational Agriculture Instructor:** California high schools.  
**Farm Manager:** State colleges; universities; corporate farms; privately owned farms.  
**Manager:** Seed processing mill.  
**Soils Technician:** Soils laboratories.  
**Range Supervisor:** U. S. D. A.; State Department of Agriculture.  
**Appraiser:** Banks, crop loans; Farm Credit Administration; Federal Land Banks.  
**Agriculture Field Assistant:** Experiment stations.  
**Assistant Market Specialist:** State Department of Agriculture, hay and grain; Bureau of Plant Industry.

#### AGRICULTURAL INSPECTION & SERVICE MAJOR

**Plant Quarantine Inspector:** County State, and Federal agencies.  
**County Agricultural Inspector:** County Agricultural Commissioner's office.  
**State Agricultural Inspector:** State Department of Agriculture.  
**Salesman:** Chemical companies such as Shell, Ortho, Niagara, Dow, etc.  
**Deputy Agricultural Commissioner:** County Agricultural commissioner's office.  
**Rodent & Weed Control Assistant:** County Agricultural Commissioner's office.

**Agricultural Pest Control Operator:** Self-owned operation.  
**Pest Control Consultant:** Chemical and seed companies.  
**Shipping Point Inspector:** U. S. D. A.; State Department of Agriculture.  
**Processed Products Inspector:** U. S. D. A.; State Department of Agriculture.  
**Senior Seed Potato Certification Inspector:** State Department of Agriculture.  
**Inspector of Economic Poisons & Fertilizers:** U. S. D. A.; State Department of Agriculture; Food and Drug Administration.  
**Senior Weights & Measures Investigator:** State and County departments of agriculture.  
**Apiary Inspector:** County Agricultural Commissioner's office; U. S. D. A.; State Department of Agriculture.  
**Senior Agricultural Standardization Inspector:** County Agricultural Commissioner's office.  
**Food & Drug Inspector:** Food and Drug Administration, U. S. D. A.  
**District Supervisor of Seed Inspection:** State Department of Agriculture.  
**Field Crop Inspector:** Extension Service-University of California.

#### GENERAL AGRICULTURE MAJOR

**Vocational Agriculture Instructor:** California high schools, rural.  
**General Agriculture Teacher:** California high schools, metropolitan.  
**Professor:** College teaching.  
**Salesman:** Chemical, irrigation, seed and food product companies; equipment companies.  
**Farm Manager:** Corporation type farms; privately owned farms; institutional farms.  
**Livestock Manager:** Corporation type farms; pured breeders; colleges; State institutional farms (hospitals and corrective agencies); feed lots.  
**Land & Water Use Analyst:** State of California.  
**Conservationist:** U. S. D. A.; State Department of Agriculture.  
**Farmer:** Self-owned diversified farm, or partnership.  
**County Supervisor for Farm Loans:** Farm and Home Administration.  
**Field Representative:** Seed and feed companies.  
**Appraiser:** Banks, insurance companies; real estate agencies; loan associations.  
**Manager:** Cotton seed plant; savings and loan associations.  
**County Land Appraiser:** County Board of Supervisors.  
**Right-of-Way Agent:** California Division of Highways.  
**Army Food Inspection Specialist:** U. S. Army.

## HORTICULTURE MAJOR

**Orchard Foreman:** Large fruit farms; institutions; privately owned farms.  
**Manager:** Packing sheds; processing plants; wholesale and retail stores.  
**Farmer:** Self-owned or partnership, fruit and nut orchards.  
**Salesman:** Chemical and frozen food companies; retail nursery stock; fruit tree stock.  
**Processed Products Inspector:** U. S. D. A.; State Department of Agriculture.  
**Assistant Manager:** Retail nursery specializing in fruit trees.  
**Assistant Branch Manager:** Chemical companies.  
**Ranch Superintendent:** Wineries; corporate farms.  
**Plant Pathologist:** State Department of Agriculture; U. S. D. A.; universities.  
**Plant Breeder:** U. S. D. A.; University experimental stations; tree nurseries.  
**Extension Specialist for Tree Fruits:** Extension Service-University of California; other Land Grant universities.  
**Vocational Agriculture Instructor:** California high schools.  
**Plant Physiologist:** Universities; U. S. D. A.; State Department of Agriculture.  
**Citrus Farmer:** Self-owned or partnership.  
**Citrus Processor & Distributor:** Sunkist Cooperative.  
**Professor of Horticulture:** College teaching.

### ORNAMENTAL HORTICULTURE MAJOR

**Landscape Gardener:** Nurseries; private establishments.  
**Nursery Owner & Operator:** Self-owned.  
**Salesman:** Retail nursery; insecticide companies; garden supply and equipment companies.  
**Supervising Groundsman:** City parks; county parks; schools; cemeteries; golf courses.  
**Nursery Inspector:** County Agricultural Commissioner's office; State Department of Agriculture.  
**Professor of Ornamental Horticulture:** College teaching.  
**Flower Groundsman:** State parks; county parks, etc.  
**Plant Propagator:** State Department of Agriculture; nurseries.  
**Landscape Contractor:** Self-owned or partnership.  
**Weed Seed Analyst:** State Department of Agriculture.  
**Park Superintendent:** County, state, federal, and city parks.  
**Golf Course Superintendent:** Country clubs; local communities.  
**Arborist:** David Tree Surgery; State Department of Agriculture.  
**Highway Landscaping Leadingman:** California Division of Highways.  
**Vocational Agriculture Instructor:** California high schools.

## VITICULTURE MAJOR

**Vineyard Foreman:** Corporate farms; privately owned farms; wineries; institutional farms.  
**Farmer:** Self-owned or partnership.  
**Extension Specialist in Grapes:** Extension Service, University of California; other Land Grant universities.  
**Grape Buyer:** Wineries; wholesale and retail outlets.  
**Sales Manager:** Packing companies.  
**Fieldman:** Chemical companies.  
**Conservationist:** U. S. D. A.; State Department of Agriculture.  
**Inspector:** U. S. D. A.; State Department of Agriculture.  
**Statistician:** State Bureau of Market News.  
**Appraiser:** Banks; loan associations; real estate agencies.  
**Salesman:** Farm Bureau Supply.  
**Laboratory Technician:** Extension Service-University of California; other Land Grant universities.  
**Vocational Agriculture Instructor:** California high schools.  
**Professor of Viticulture:** College teaching.

### ENOLOGY MAJOR

**Wine Chemist:** Wineries.  
**Sanitarian:** Wineries; food processing plants; county health departments.  
**Cellar Foreman:** Wineries.  
**Plant Manager:** Wineries.  
**Buyer:** Wineries; retail outlets.  
**Plant Superintendent:** Wineries.  
**Salesman:** Wineries; retail outlets; wholesale outlets; distributors.  
**Food Technologist:** Wineries; food processing plants.  
**Promotional Advertiser:** California Wine Institute.  
**Professor of Enology:** College teaching.  
**Laboratory Technician:** Wineries; colleges.

### AGRICULTURAL JOURNALISM MAJOR

**Writer:** Daily newspapers; Extension Service; experiment stations; agricultural magazines; radio stations; television stations.  
**Editor:** Daily newspaper; Extension Service; experiment stations; agricultural magazines; radio stations; television stations.  
**Copywriter:** Advertising agencies handling agricultural accounts.  
**Farm Reporter:** Radio and television stations; newspapers; magazines.

## SALARIES

Salaries paid to college graduates for the kinds of jobs identified herein will vary from \$4,800 to \$18,00 annually. The following table is based on a study of 232 Fresno State College agricultural graduates who received bachelor of science degrees between June 1949 and June 1961. The average salary for this group is \$7,300 per year.

YEARS of EXPERIENCE	AVERAGE ANNUAL SALARY
(1961) None	\$ 5,333.00
(1960) One Year	\$ 5,709.00
(1950) Two Years	\$ 5,736.00
(1958) Three Years	\$ 5,817.00
(1957) Four Years	\$ 6,446.00
(1956) Five Years	\$ 7,009.00
(1955) Six Years	\$ 7,279.00
(1954) Seven Years	\$ 7,926.00
(1953) Eight Years	\$ 8,255.00
(1952) Nine Years	\$ 8,715.00

There are many college teaching and research positions that pay between \$6,900 and \$18,000 annually. Specialized jobs in foreign agricultural assignments will pay between \$10,000 and \$25,000 annually. Graduates with masters' and doctors' degrees will earn more proportionately than the graduate with just a bachelor of science degree. Many agricultural positions have automobiles furnished to the employee, and in most farm management positions living quarters are also furnished. County, state, and federal positions have definite salary schedules for their employees. Sick leave, paid vacation, and retirement programs are additional benefits provided by most companies today.

### SUGGESTED HIGH SCHOOL PREPARATION

1. English, 3 years.
  2. Algebra, 1 year.
  3. Geometry, 1 year.
  4. Agriculture science, 1 to 4 years.
  5. Biology, botany, zoology, physiology, 1 year.
  6. Chemistry or physics, 1 year.
  7. American history or American history and civics, 1 year.
  8. Other junior or senior social science, 1 year.
- Experience in vocational agriculture, 4-H Clubs, summer work on farms; summer work in any type of packing, processing, or business enterprise related to agriculture will prove beneficial to those planning careers in any type of Agribusiness industry. City youth with aptitude in chemistry, physics, biology, art, journalism, or speech will find plenty of places in agriculture to permit their primary interest to grow to the fullest extent.

The high schools of California are in a position to render a real service not only to the student but to the agricultural colleges, including the junior colleges, state colleges, and the University of California, by helping disseminate this information to junior high and senior high school students.

The Division of Agriculture at Fresno State College will be pleased to work with you and members of your counseling staff in providing special programs on career days or other occasions. We have prepared a thirty-minute film titled "Agribusiness Opportunities" in cooperation with the California Fertilizer Association, Western Agricultural Chemical Association, State Department of Agriculture, Bank of America, and Producers Cotton Oil Company. This film may be obtained by writing to the Audio-Visual Center, Fresno State College, Fresno, California 93726.

## SABBATICAL 1961-62 FROM ORGANCE COAST COLLEGE

by Elgin L. Hall

Editor's Note. Most of our readers know about Mr. Hall's Sabbatical tour made some two years ago. He has made short reports in the Journal before and has sent a complete report to the institutions which he visited. It is our opinion that the tabular material included in this issue will be of interest and value to some of you. We are therefore publishing it for your benefit.

This sabbatical trip was planned for two years before my actual leaving. Two questionnaires and several cards or letters, in some instances, were sent to each school participating—junior colleges, 4-year colleges, and land grant colleges. Colleges visited of course all had programs of agriculture.

The purpose of the sabbatical was to see the general picture of college agriculture education throughout the United States. Along with this I endeavored to see the relationship of Agriculture Education to farming and other agriculture enterprises.

Much of the report is tabulations from a large 2-page questionnaire which I filled out while visiting with representatives from the various schools. Since I could not tie myself down to hour and date deadlines, I consider that I was extremely fortunate in being able to talk with someone on all except 2 out of over 100 colleges visited.

Traveling in a camper mounted on a 3/4 ton pickup, I visited an average of one college a day, for the five day week, for 20 weeks. This constituted the greatest part of my travel—some 21,000 miles. After returning to the Pacific Coast several short trips were made in Southern California. The final visits were through Central and North-

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