DEPARTMENT OF ENTOMOLOGY

MAJOR FUNCTIONS

Conducts undergraduate and graduate instruction in entomology.
Degree programs leading to Bachelor of Science at baccalaureate level,
and to the Master of Science and the Doctor of Philosophy degrees at the
post-graduate level are offered (see U.H. Manoa 1975-77 general catalog
for details of course offering, etc.).

Conducts basic and applied scientific research in the field of
entomology in order to:

1. Develop basic scientific data on classification, evolution,
morphology, physiology and ecology of insects and related
organisms.

2. Develop chemical cultural, biological and other types of control
measures, as well as integrated control programs, for the solution
of insect pest problems.

Prepares and disseminates to both scientific and lay public written
and verbal reports on results of research conducted, recommendations for
control of insect pest problems, and any other information concerning
insect and related organisms which may be needed.
FUNCTIONAL STATEMENT

College of Tropical Agriculture and Human Resources (CTAHR)
Department of Food Science and Human Nutrition

The Department of Food Science and Human Nutrition (DFSHN) will offer programs of instruction at both the undergraduate and graduate levels, and, through the Hawaii Institute of Tropical Agriculture and Human Resources (HITAIR), carry out both departmental and interdisciplinary programs encompassing both research and extension functions.

Instruction

- Plan, develop and implement courses and curricula leading to a baccalaureate degree with options in food and nutritional sciences, food technology, food service management, dietetics and community nutrition and nutrition education, and to a master's degree with options in food science and nutritional science. (A proposal for a Ph.D. program in Nutritional and Food Science is currently pending.)

- Provide service courses for students from other departments and colleges in the University.

- Offer courses through the College of Continuing Education and Community Services and the Summer Session.

- Provide academic advising and related career counseling to students.

Departmental Disciplinary Research

- Through the Assistant Director for Agricultural and Applied Behavioral Sciences Research, HITAIR, and the Department Chairperson (acting in his/her capacity as the coordinator for departmental disciplinary research), plan, develop and conduct research projects designed to advance knowledge in food science, food technology and systems, and nutritional science.
Supervise the work of graduate students conducting thesis and directed research projects.

Prepare reports and manuscripts or otherwise make available the research findings. Some of the research areas will involve food biochemistry and chemistry; food microbiology; food processing, engineering and technologies; food safety; nutritional, sensory and objective quality, nutrient requirements, interrelationships and bio-availability; metabolic diseases; toxicology; nutrition education and policy; food and cultural interrelationships; food preparation and food service management systems; dietetics; nutritional status and function competence.

Keep up with research findings elsewhere in order to make use of appropriate new knowledge in departmental programs and to keep abreast of new developments in the discipline.

**Interdisciplinary Research and Extension Education**

Through the Assistant Director for Agricultural and Resource Development, HITAIR, plan, develop and conduct interdisciplinary research and extension education projects in support of the food processing and food service industries in the State and in promoting sound nutritional practices in the community. Priorities should be established in accordance with various industry analyses and clientele needs.

Participate as needed in other interdisciplinary projects to input food science or human nutrition knowledge required by these projects.

Work with county research and extension personnel to develop county subprograms and annual plans of work.

Prepare reports and educational materials or otherwise make available research and development findings. Some of these areas are the develop-
ment of food products and food processing methods for fruits, vegetables, nuts, grains and animal products (poultry, beef, pork, processed meats, fish, shell fish, prawn, etc.) and seaweed; nutrition and food quality testing; food packaging; food preparation methods; dietetic standards and education; consumer/school/institutional/community nutrition education programs; food safety laws and regulations; food and nutritional practices in other cultures.

Other

. Develop criteria for and participate in peer review process for professional development.
. Participate in other academic or educational activities of the College, the University of Hawaii at Manoa and the University as appropriate.
. Provide expert information on occasion to other State agencies, community service organizations, the Legislature and others when called upon to do so.
. Participate in the governance of the department, the College and the University of Hawaii at Manoa.
Department Chairman

With the help of a secretary maintains the Office with its attendant, correspondence and records which include personnel, financial, academic, procurement, inventory and others. Also administers the Graduate Field of Study.

Instruction

The Department carries on instructional programs leading to (1) a D.S. in Tropical Agriculture with an option in Food Science and Technology and (2) a M.S. in Food Science. The Master's program includes faculty from Agricultural Biochemistry and affiliate faculty from the State Dept. of Agriculture, USDA, Castle & Cooke, and the Hawaii Fruit Laboratory of the U.S.D.A. These programs are designed to prepare students for careers in the Food Industry, Government, Academia and related fields.

Research

The Department carries on an active research program under the auspices of the Hawaii Agricultural Experiment Station. It carries on Cooperative work with the Hawaii Fruit Laboratory of the U.S.D.A. The program encompasses the processing of fruits (papaya, guava, passion fruit, pineapple, etc.), nuts (macadamia), vegetables (taro) and animal products (fish, chicken). Basic research areas such as food safety, food biochemistry, food engineering and sensory evaluation are also pursued.

Extension

The Department carries on an active extension program under the auspices of the Cooperative Extension Service. It provides technical assistance and continuing off-campus education to the food industry. It also provides liaison between the needs of industry and the interests of researchers so as to maximize the opportunity for productive research.
FUNCTIONAL STATEMENT IN SUPPORT OF
DEPARTMENT OF HORTICULTURE'S ORGANIZATIONAL CHART

The Department of Horticulture's functions fall into three major categories, research, extension and instruction, administered by the department chairman. If these categories are aligned horizontally, vertical components of activities may be considered on major crop sections, composed of fruits, vegetables and ornamentals.

Research personnel is composed of researchers, APT's, research assistants and civil service support group (agricultural technicians and office staff) that occupy 20.22 position counts. There are 32 research projects in the three crop sections in the areas of genetics, cytogenetics and plant breeding; crop physiology and culture; asexual propagation including tissue culture; weed science; and chemical growth regulation.

Extension program is conducted by crop specialists, researchers with split appointments (including chairman of department) and civil service support personnel (Secretary I) that occupy 5.30 position counts. Specialists represent the crop sections in fruits, vegetables and ornamentals and are closely related to researchers in these crop areas. Programs of the specialists are composed of (1) supporting county extension agents by providing technical information; (2) providing educational materials, seeds, etc.; (3) conducting workshops; (4) providing educational and technical information to industry, students and to the general public; and (5) participating in the department's instructional program. Another activity that comes under the department's extension program is the Seed Distribution Program. This program is administered by one APT, assisted by student help.

Instructional program is composed of undergraduate and graduate instructions. Researchers and extension specialists with split appointments and teaching assistants occupy 4.10 position counts. The undergraduate program is composed of two options: Horticultural Technology and Horticultural Science. There are 10 undergraduate courses and 12 graduate level courses, excluding courses designated as Directed Studies and Thesis or Dissertation Research. Graduate program consists of the MS options, M and B, and the Ph.D. degree.

Henry Y. Hakasone, Chairman
Department of Horticulture

10/10/75
FUNCTIONAL STATEMENT

DEPARTMENT OF HUMAN RESOURCES

The Department of Human Resources (HR) will offer programs of instruction and, through the Hawaii Institute of Tropical Agriculture and Human Resources (HITAHRI), carry out both departmental and interdisciplinary programs encompassing both research and extension functions.

INSTRUCTION

Plan, develop and implement courses and curricula leading to the baccalaureate degree. Instruction will be provided in areas such as family and community studies, family resource development, clothing and textiles, and general home economics.

Plan and develop courses and curricula in family nutrition and home economics education in cooperation with the Department of Food Science and Human Nutrition and the College of Education, respectively.

Provide service courses for students from other departments and colleges in the University.

Offer courses through the College of Continuing Education and Community Services and the Summer Session.

Provide academic advising and related career counseling to students.
DEPARTMENTAL DISCIPLINARY RESEARCH

Through the Assistant Director for Agricultural and Applied Behavioral Sciences Research, HINTER, and the Department Chairperson acting in his/her capacity as departmental disciplinary research, plan, develop and conduct research projects designed to advance knowledge in family and community studies, family resource management, clothing and textiles and general home economics.

Supervise the work of students engaged in research projects as needed.

Prepare reports and manuscripts or otherwise make available research findings for publication and dissemination. Some of the research areas will involve: individual development throughout the lifespan, individual family and group relationships, community resources and quality of life, problems of family nutrition, family economics and management, consumer economics, shelter and energy, aesthetics of physical environment, textiles, apparel design and construction, fashion merchandising and management.

Keep up with research findings elsewhere in order to make use of appropriate new knowledge in departmental programs and to keep abreast of new developments in the discipline.

INTERDISCIPLINARY RESEARCH AND EXTENSION EDUCATION

Through the appropriate Assistant Directors for HINTER, plan, develop and conduct interdisciplinary research and extension...
education projects in support of the family, consumers, and clothing and textiles industries in the State. Priorities should be established in accordance with industry and program analyses based on clientele needs.

Participate as needed in other interdisciplinary projects to improve human resources knowledge required by those projects.

Participate in international projects as appropriate.

Work with county research and extension personnel to develop county sub-programs and annual plans of work.

Prepare reports and educational materials or otherwise make available research and development findings for dissemination.

Develop criteria for and participate in peer review process for professional development.

Participate in other academic or educational activities of the College, the University of Hawaii at Manoa and the University as appropriate.

Provide expert information on occasion to other State agencies, community service organizations, the Legislature and others when called upon to do so.

Participate in the governance of the department, the College and the University of Hawaii at Manoa.
STATE OF HAWAII
UNIVERSITY OF HAWAII AT MANOA
COLLEGE OF TROPICAL AGRICULTURE
DEPARTMENT OF PLANT PATHOLOGY

MAJOR FUNCTIONS

Objectives of the Department of Plant Pathology clearly conform to the College of Tropical Agriculture's objectives. They include integrated research, teaching, and extension programs that are concerned with development of new concepts and philosophies of disease control and application of these methods to effectively produce food and fiber and protect our renewable resources. Our basic and applied research has developed new information that forms the basis for new plant disease control methods, such as pest management. This is an integration of all methods of pest control into a system that maximizes the benefits of each method and reduces the secondary or side effects often found when only pesticides are used. For some crops, pest management practices have substantially reduced pesticide application costs.

Research Program

The Department of Plant Pathology has the main portion of their program in the Hawaii Agricultural Experiment Station. These activities intertwine with their contributions to instruction and extension. Hence a consideration of the objectives of INES is relevant to us in the present context. We conduct disease research on the broad front of commodities through 18 different projects as well as cooperating in six interdepartmental projects.

INES contributes to formal course instruction, nonscheduled instruction, and undergraduate and graduate student research and extension. All Plant Pathology courses except one are taught by research personnel whose positions are entirely in INES. INES resources (mainly Federal) provide research assistantships, supplies, equipment and facilities for student research. We have no teaching assistants or state-supported research assistants.

Instructional Program

Our programs have prepared students to be effective employees or employers in agri-business, technology, industry, state or federal government service, teaching or research.

As in other graduate programs within the College of Tropical Agriculture, we try to stimulate and develop intellectual curiosity of the student that leads to a desire for continued intellectual growth.
We strive so that the student will continue to question his observations in the field, utilize the libraries and other sources near at hand as well as participate in adult or continuing education programs. Locations of sources of information on plant pathological problems are presented to students in both undergraduate and graduate courses.

Extension Program

An important segment of the Department's program is the extension program which provides a public information arm to our overall program. In addition to problem solving in the farm and urban setting, subsequent applied research tests out the most efficient means of disease control. The Plant Disease Clinic which features both professional referrals as well as "walk-in" home owner problems has become an exemplary model of prompt and effective service. An important adjunct of the Clinic is the detailed record of disease occurrence in the State which serves both instructional and research programs. The Plant Disease Clinic has become the model from which the new Agricultural Service Center is being constructed. Specialists as well as other members of the Department conduct training sessions in disease recognition and control methodology. Researchers within their area of organizational or crop expertise serve as resource persons to our extension program.

09-09-75
HUMAN DEVELOPMENT DEPARTMENTAL OBJECTIVES

The Human Development programs in Instruction, Research, and Cooperative Extension share a common focus on practical applications of Human Development knowledge. Each program in its own way is structured around the development of the individual person through the life cycle.

Instructional and Extension Objectives:

To serve the personal development and career preparation needs of undergraduates and other community members interested in practical applications of human development knowledge.

To prepare students and other community members to know how individuals and primary groups like the family can use scientific knowledge to control the directions of social change toward a quality of life that assures optimal human development.

To stimulate and direct to constructive use each student's and other community member's power to conceptualize and integrate his life experiences and to examine values.

To pursue the above objectives within the conceptual framework of the Human Resources Development Division.

Research Objectives:

a. To conduct research on the development of individual persons in primary groups and the near environment.

b. To conduct research with a view to application in the Instructional and Extension programs of the Department and of the division (IIRD).

c. To conduct research arising particularly out of the needs of the people of Hawaii and concerned with the identity and interrelationships of the various cultures of Hawaii.
To provide courses in the subject matters of Family Management, Family and Consumer Economics and Housing for both majors and non-major students.

To direct and service the undergraduate program in the Community Services in Home Economics option.

To conduct a Cooperative Extension Service program in the subject matters listed above.
Department of Food and Nutritional Sciences

The Department carries out functions in three broad areas, namely, instruction, research and extension.

Instruction:

Undergraduate: plans and carries out training to the baccalaureate level in four options: Dietetics, Educational Communications in Foods and Nutrition, Food Systems Management, and Nutritional Sciences. Also, provides service courses for students in other majors.

Graduate: plans and carries out training to the Master's degree level for students pursuing either a thesis or a non-thesis program.

Research:

The members of the Department plan, carry out and evaluate research projects on a variety of subjects in the field of nutritional sciences. Eight major research projects and a few pilot studies are underway.

Extension:

The Specialist in nutrition plans, implements, and evaluates extension programs throughout the State which involve the nutritional well-being of residents. The Specialist also keeps abreast of current research in the field of nutrition and collaborates with other nutrition programs in the State.
Functional Statement

The primary objectives of the department are:

A. Resident Instruction

1. To provide programs of study that afford our majors the opportunity to develop intellectual attitudes and skills leading to marketable competencies in fashion design and fashion merchandising that will qualify them for careers in Hawaii’s business community and fashion industry.

2. Optimal development of the total individual in today’s world is encouraged through the exploration of scientific and humanistic knowledge and experience. Using the University core of courses and the Departmental core of courses as a base, individualized advising helps each student to adjust to changing lifestyles and values.
   a. To provide an atmosphere conducive to the creative learning necessary to prepare students for careers in consumer-oriented fields.
   b. To provide introductory courses to help the uncommitted but interested student to assess the desirability of a consumer-oriented career in relation to his or her potentials and competencies.
   c. To provide comprehensive faculty advising for personal, educational, and career concerns for all majors and for students desiring to transfer into the major.
   d. To provide the advanced courses necessary to develop the skills and marketable competencies needed for each major.
   e. To provide opportunities for a student to develop the total person for living in today’s world.

3. To provide service courses to help complete degree requirement for other programs such as Home Economics and Interior Design.

4. To provide courses during summer sessions for elective students.

B. Community Service through Extension Programming

1. To enhance the quality of individual and family decisions in clothing and textiles and provide the skills to carry them out.

2. To increase the ability of the individual to interact effectively with others by understanding the communication of clothing.

3. To help the individual throughout his life cycle to understand his family heritage and values through clothing.

4. To provide communication links between the consumer of clothing and textiles and business and industry.
C. Research

1. To support resident instruction and community expressed needs with the latest technical information concerning textiles and clothing.
The county staff, situated in 13 different communities on 5 islands, represent the Extension Service and the University of Hawaii to the people of Hawaii. They conduct educational programs in the field and are supported in this work by subject matter specialists based on the University campus. There are 4 counties in Hawaii--Hawaii, Maui-Molokai-Lanai, Oahu, and Kauai. A county is staffed with a county chairman, area specialists, county Extension agents and county home economists.

County Chairman. The county chairman is responsible to the associate director through the leader of Project VIII for the supervision of personnel and for the conduct of Extension work in his county. His functions are to:

a. Develop, submit, and review annually county plans and reports.
b. Recommend county personnel action to the associate director through the leader of Project VIII.
c. Prepare the county budget and supervise spending.
d. Coordinate the various segments of the county program and guide and counsel county workers to effectively discharge program responsibilities.
e. Stimulate county workers to greater proficiency in accomplishing program objectives.
f. Evaluate county workers and evaluate programs with project leaders, to determine progress made and objectives attained.
g. Promote effective working relationships between county workers and subject matter specialists and advise county workers on appropriate specialist resources.

h. Provide adequate publicity for counties and promote desirable public relations.

i. Manage the county office and operations efficiently.

j. Maintain a flow of communication to college departments through appropriate specialists, or needed county research.

k. Supervise the inventory and maintenance of county supplies and equipment.

**Area Specialists.** An area specialist is a county worker with special competencies in a particular subject matter. He may be housed on the University campus or in a county office and is responsible to the appropriate department chairman for the newness and appropriateness of the subject he teaches. He conducts field work in a specified county and is responsible to the appropriate county chairman for the conduct of his field work. The area specialist is both county worker and subject matter specialist. Administratively, his line of reporting goes to the Associate Director through the county chairman. His functions are to:

a. Develop a state and county program in his subject and work closely with the project leader and the county chairman to help write plans and reports in his subject.

b. Conduct an educational program directly with the people of a specified county.

c. Help people of the county understand the problems pertinent to his subject and assist them in developing programs aimed at solving their farm, home, and community problems.

d. Translate research in his subject into readily understood form and disseminate such information by writing bulletins, newspaper and magazine articles, radio scripts, circular letters, and other materials for mass distribution.

e. Prepare educational material and aids necessary to conduct an effective teaching program in his subject.

f. Maintain professional competence by keeping abreast of research and literature in his subject.

g. Keep himself informed of problems in his county pertinent to his subject, by conducting studies or by observation and analysis.

h. Develop and conduct, or help conduct, tests, studies, and other field research specifically aimed at solving field problems pertinent to his program.

i. Serve as communication link between his clientele in the county and college departments through the state specialist concerned, for research needed in the field.

j. Maintain working relationships with industry leaders in his subject or related fields, as well as with other federal and state agencies.
County Workers. The county Extension agent and the county home economist are responsible for leading and conducting a segment of the total county program. They are responsible to the Associate Director through the county chairman. Their functions are to:

a. Conduct an assigned segment of the county program in line with the objectives of the total Extension program.

b. Prepare educational material necessary to conduct an effective county teaching program.

c. Help develop plans and reports for the county.

d. Keep himself informed of the county—its problems, resources, needs, and opportunities.

e. Help county people understand their problems and develop programs with them to solve farm, home, and community problems.

f. Maintain good relationships with other agencies and organizations interested in the welfare of rural people in order to coordinate various programs concerning agriculture and family living.

g. Maintain an efficient office where people of the county may obtain useful and practical information.

h. Record problems, needs, and accomplishments in the assigned segment of the county program and keep the county chairman and the State Extension office informed of these, as well as the people of the county, through appropriate means of communication, including press, radio, and other mass media.

i. Bring to local people information concerning state, national, and international programs affecting them.

j. Keep professionally abreast of social and economic changes and of tested teaching methods and procedures.

k. Keep professionally abreast of the latest in subject matter, particularly in those areas in which he conducts specific programs.

All Extension workers are educators representing the University and the U. S. Department of Agriculture. Each has a public relations responsibility and the responsibility of maintaining good internal communications and relations at all times.

The structure of Hawaii Extension is summarized in the "Cooperative Extension Service Organization Chart."
The Hawaii Agricultural Experiment Station (HAES) has been developed through the land-grant college system and is supported by federal funds (Research, McIntire-Stennis and Regional Research Funds) and State General Fund appropriations.

The research program of the Station emanates from the departments of the College of Tropical Agriculture at the Manoa campus in Honolulu. The program is headed by an Associate Director who has an Assistant Director in charge of branch experiment stations.

HAES, established in 1939, now includes 4 branch experiment stations including 18 different field locations on the major islands of the Hawaiian chain. There are 11 experimental sites on the island of Hawaii, 5 on Maui, 4 on Oahu, and 4 on Kauai. Professional research staff, including one who is superintendent, are located at the 4 branch stations on Hawaii, Maui, and Kauai. They are also members of their respective departments at the College in Honolulu and their research is integrated into the overall departmental research program. The ecological and physical characteristics of the major sites and the major areas of work are presented in the table. Many of the experiment station sites are located in environmental conditions that accommodate temperate crops and temperate farming practices. This enables a temperate as well as a tropical capability in our research.

The experiment station has the capability and professional expertise to conduct basic, applied and mission-oriented research in the many fields of tropical and subtropical agriculture. The field research programs are also utilized in training of graduate students, Peace Corps volunteers, and visiting specialists in tropical agriculture. There are approximately 110 full-time equivalent professional staff in the Experiment Station conducting some 160 research projects.

The branch experiment stations will be discussed briefly according to the major island on which they are located.

The Islands of Hawaii. The John Besawnt Research Center at Hilo is the headquarters for agricultural scientists including the Superintendent of the Hawaii Branch Station. The Superintendent with 2 farm managers are in charge of the Hilo, Volcano, Kula, Haleakala, Kealakekua, Kona, Captain Cook, Hualalai, Pukalani, and Lanai research facilities. Located at the headquarters are professional personnel in the Departments of Animal Sciences (1), Plant Pathology (2), Agronomy & Soil Sci (3), Botany (2), Ent (1), and Hort (3). Close cooperation between the extension and research programs is possible, for some individuals have split appointments. Some on the branch station staff also teach courses in agriculture and related extension at the Hilo campus of the University of Hawaii as well as participate...
in training programs with the Peace Corps and other international cross-culture agencies who have headquarters in Hilo. As members of a College department, field staff periodically make trips to Honolulu to participate in the various functions and operations of the department.

Research at these stations covers a wide variety of projects. Studies in horticulture are primarily concerned with tropical plants such as papaya, macadamia, mango, lychee, citrus and many ornamentals characteristic for Hawaii, especially orchids and anthuriums. Dairy, beef, swine, and sheep nutrition and management studies are conducted for the Department of Animal Sciences. Temperate and humidity control studies with greenhouse facilities are available at the Waiakea station. Vegetable crop experiments and field corn experiments are conducted at the Volcano experimental station, at Kona and at Lulumalu. Fruit and nut crop experiments are conducted at the Kalama-kii, Kona and Waiakea stations. Animal Sciences programs are conducted at Waiakea, Field 33, Kula, Naalani and Pukalani. These are primarily concerned with reproductive problems, nutrition and grazing on high elevation grasslands. Nutritional studies for fruit and vegetable crops are conducted by the Horticulture and Agronomy Departments. These are usually conducted at the Lulumalu, Naalani and Volcano stations. The Waiakea station is the center for horticulture research.

The Kona and Captain Cook research areas are located at elevations between 1,400 and 1,800 feet. Specialties here are fruit, nut, and coffee production. Studies on new species and varieties, quality, production, insect, weed and disease control are the prime areas of investigation for this station.

Contract research under special appropriations is being carried out at Kohala on feed and feed grains for finishing beef cattle. These studies are in preparation for new industries in replacement of sugar in that area.

Most station superintendents and professional staff have had many years of experience in tropical agriculture. Professional researchers have had experience as consultants and on sabatical leaves at various institutions in the Pacific and Near East.

The Island of Oahu. Four experimental sites are located on Oahu. These are Poomoho, Waimanalo, Manoa and the Waialae Livestock Research Farm, which is in the center for research on poultry, beef, dairy, and swine under the direction of the Chairman of the Department of Animal Sciences.

The Poomoho, Manoa and Waimanalo experimental sites are concerned primarily with horticultural crops, particularly varieties of vegetable crops, fruits, and nuts that have been introduced into Hawaii. Studies on plant disease resistance and insect control are conducted here. The Waimanalo Experimental Farm, 15 miles from Honolulu, is the closest experimental area to Hanaa. A wide variety of fruit, vegetable, and nut crops are grown on this station. Research on harvesting methods, nutrition, irrigation practices, plant breeding, weed control, insect control, disease control, ornamental
and floricultural crops, and forage crops is conducted on the 127 acres of land that comprise the research station.

Professional personnel are not attached to the branch experiment stations on Oahu. They are located within the departments on the Manoa campus and personnel must travel to the experimental sites on those farms. A manager under the direction of the Assistant Director of the Experiment Station is in charge of operations.

Located on the Waimanalo research station is a very fine arboretum containing many varieties and species of tropical fruits, nuts, and fiber plants. The arboretum has been used for training programs for East-West Center students and trainees, Peace Corps volunteers, and Department of Education groups from throughout the state. USDA explorers in search of new tropical crops have been very complimentary on this collection of unique and exotic tropical plants.

The Island of Maui. Five research station areas are located on Maui. The headquarters is the Kula station at about 3,000-foot elevation. Three professional personnel, a horticulturist (floricultural specialist), an agronomist, and a plant pathologist, are part of the permanent staff.

The Kula station is primarily concerned with the introduction, evaluation, and culture of ornamentals, vegetables, and temperate fruit crops. Studies are also being conducted on pasture management and the use of tropical legumes. Pasture, tropical legumes and a variety of tropical fruits and nut crops are grown at the Haleakala station.

The Island of Kauai. Four experimental sites are located on the Island of Kauai. The headquarters for the branch station is the Wailua experimental station at an elevation of 322 feet. Research here is primarily concerned with tropical fruit and nut crops (papaya, macadamia, banana, citrus, guava, litchi), specialty crops, root crops, and vegetable breeding and production. Some experiments are also being conducted on pasture management and production of forage crops and grasses.

Nearby, but at sea level, is a rice production training center where paddy crops such as rice, taro, etc., are studied. Research on the mechanization and evaluation of herbicides for these paddy crops is conducted here.

The Rice Training Center is potentially important for greater involvement of the College in international tropical agriculture. Training programs are conducted here for persons who will be working in the tropical areas of Southeast Asia and the Pacific Basin. Peace Corps, AID, and other governmental agencies have taken part in these training programs. The Center has a fine dormitory space as well as classrooms. Specialists fly over from Honolulu to conduct and assist in the training programs. The facility could be much more intensively used if support for this purpose were available.

This Center was the headquarters for the Second International Poot Crop Symposium held in Hawaii in July of 1970. It is also the site of the
research program, in cooperation with Oregon State University, on evaluation of herbicides in the production of rice, cane, and other paddy crops as well as other tropical fruit, vegetable and forage crops.

Professional personnel attached to the Kauai Branch Station are in the Departments of Agronomy and Soil Science (1), Plant Pathology (1), and Horticulture (1). The professional staff has had experience in consulting with scientists from the Pacific area, Southeast Asia, and Australia and are familiar with the conditions of these areas.
STATE OF HAWAII  
UNIVERSITY OF HAWAII  
UNIVERSITY OF HAWAII AT HONOLULU  
COLLEGE OF TROPICAL AGRICULTURE  
PEARL CITY INSTRUCTIONAL FACILITY

MAJOR FUNCTIONS

The Pearl City Instructional Facility functions as a field practice laboratory course for students of the University of Hawaii, College of Tropical Agriculture.

.To foster student and community concern for food production, small scale gardening, organic farming, protection of the environment, recycling of wastes and enhancement of natural beauty, recreation and therapeutics.

.To provide students with practical opportunities to relate their experiences and university courses to their future community and job activities in food production, agricultural services and environmental improvement.

.To motivate student responsibility and interest in local agricultural leadership.

.To see the relevance of their college courses and the need to relate them toward their professional and job objectives.
4-H - YOUTH DEVELOPMENT

4-H - Youth Development focuses on 4-H youth groups at the community level where volunteers serve as leaders to plan and carry out organized learning experiences with youth.

The function of the 4-H - Youth Development unit in the College of Tropical Agriculture is to:

...Organize parents, other adults, and volunteers for the purpose of helping youth to cope with problems in areas of human relations, community involvancement, health and safety, food, energy, values, decision making, careers, and other societal concerns. Emphasis is placed on helping parents, other adults, and volunteers to understand the importance of their role and how they can be involved more effectively in the development of youth through 4-H.

...Develop the curriculum and curricular tools to help volunteer leaders in their educational efforts of working with youth. Parents, adults and others serving as volunteers need help on how to work more effectively with youth, and need the necessary materials to help them in the educational process. An emphasis will be placed on developing curricular materials concerned with the various areas of life skills and societal concerns.

...Assist the Hawaii 4-H Foundation to raise funds to supplement public funds in carrying out the 4-H program.

...Maintain close working relationships with other youth serving educational agencies within the state.
Community Resource Development is a process involving an open system of decision-making whereby those who comprise a community use democratic and rational means to arrive at group decisions and take appropriate action for enhancing the social and economic well-being of the community.

The function of the Community Resource Development unit in the College of Tropical Agriculture is to:

- Assemble, interpret and make available to county extension staff and community leaders information and material that will assist people in communities to deal effectively with their problems.
- Bring problems from communities that require additional information for solution to the attention of research.
- Work with social and economic researchers to plan and carry out needed research for community betterment.
- Provide needed leader training for professional staff as well as for community leaders.
- Design and provide assistance for community surveys to provide basic information and background for community planning.
- Evaluate completed and ongoing programs to determine effectiveness.
The major functions of the ADSC are as follows:

1. To conduct testing services and obtain from specialists located in the departments prescriptive recommendations to growers and homeowners based on soil fertility and mineral analysis, feed and forage analysis, plant disease and nematode analysis, insect pest analysis, pesticide residue analysis (to be retained in the Department of Agricultural Biochemistry) and irrigation water analysis. Analytical services are also provided to research and extension projects.

2. To serve as a central office for collection and processing of test samples, and the billing, collecting and processing of fees.

3. To perform administrative functions associated with the ADSC such as budget preparation and allocations, purchasing, equipment maintenance and replacement, preparation of progress and fiscal reports.

4. To maintain a data file to analyze trends and flag possible emerging problems, including those requiring research, and in cooperation with departments, to recommend long-term recommendations for preventive and/or corrective measures.
5. To work with relevant State agencies on problems of mutual interests and concerns.

6. To perform other related functions as required.
Office of the Dean and Director

Plans and directs the programs of the College of Tropical Agriculture and Human Resources (CTAHR) as the Dean of the CTAHR and the Director of Cooperative Science and Education (based on USDA organization). The Dean’s office must provide the leadership and policy guidance necessary to the effective accomplishment of the CTAHR’s mission and goals.

- Provides executive leadership in the areas of planning, program development, policy formulation, budgetary priorities and program direction.

- Represents the University and the College in its external relationships, particularly with regional and federal agencies, the Governor’s Office, the State Agriculture Coordinating Committee, the State Department of Agriculture, appropriate committees of the State Legislature and Congress, groups representing industry and the College’s varied clientele, and other American and foreign universities and officials.

- Approves internal policies applicable to the College and its constituent units or recommends policies for higher administrative approval as appropriate.

- Provides administrative direction and coordination for implementation of the instruction, research and development, and extension functions of the College as integrated programs serving State, regional, national and international needs in agriculture, natural and human resources.

- Approves or recommends appointments to positions in the College.

- Provides for evaluation of programs and services to maximize their effectiveness and to meet accountability requirements in accordance with federal, State and University regulations.

Office of Publications and Information

Under the policies and guidelines approved by the Dean, this office assumes responsibility for the publication and information program of the College.
Edits, publishes and distributes research and extension publications.

Plans, develops and directs the mass media educational and informational programs (printed media, radio and television).

Advises the administrators and professional staff of the College on matters of public information and improving communications.

Maintains a depository and stocks of publications, including publications issued by federal agencies and other sources of interest to the College.

Performs other related duties as required.

Office of International Programs

Under the policies and guidelines approved by the Dean, assumes responsibility for coordinating the international programs of the College.

Plans, develops and coordinates both long-range goals and immediate objectives of the College's international training programs.

Develops working relationships and maintains liaison with federal and State agencies, counterparts in agricultural colleges throughout the United States, governmental and university officials in foreign countries, the East-West Center and other international programs of interest to the College.

Provides support to the faculty of the College in developing international training projects for extramural funding.

Serves as a source of information and assistance to firms, groups and individuals in the State of Hawaii who are involved or interested in international agriculture and human resource programs.

Provides periodic reports on the College's international programs and activities.

Performs other related duties as assigned.

Office of the Associate Dean for Academic Affairs

Under University and College policies, the Associate Dean for Academic Affairs, assisted by the Assistant Dean, assumes direct operational responsibility for the instructional programs of the College.
- Provides leadership in planning, developing, implementing and evaluating the instructional courses and curricula of the College.

- Coordinates interdisciplinary educational programs that cut across individual departments.

- Exercises administrative direction over departmental instructional activities and evaluates their performance.

- Recommends policies and budgeting priorities for instructional programs to the Dean for his approval.

- Administers a College-wide counseling and student service program for undergraduates and ensures that departmental advising programs for majors and graduate students are in accordance with established policies.

- Coordinates instruction and training with the activities of the Hawaii Institute of Tropical Agriculture and Human Resources, and graduate programs with the Dean of the Graduate Division.

- In consultation with the Director of the Institute, recommends instructional faculty appointments to the Dean, including the appointments of department chairpersons, and other personnel actions such as promotions, tenure and leaves.

- Assists the Dean in the College's external relations and serves as Acting Dean when both the Dean and the Director of the Institute are absent.

- Directs the work of an Assistant Dean for Academic Affairs, who will administer appropriate student services and perform other duties to assist the Associate Dean of Academic Affairs.

- Performs other related duties as assigned.

Office of the Director, Hawaii Institute of Tropical Agriculture and Human Resources (HITAHR)

Under the policies and guidelines approved by the Dean, the Director of the HITAHR assumes direct operational responsibility for the programs of research and extension services, including the operations of the branch experiment stations and county extension service.
Provides leadership in planning, development, implementation and evaluation of the programs of the Institute.

Represents the Institute in its dealings with the Legislature, State, regional and federal agencies, industry and clientele groups, university and governmental officials in the U.S. and foreign countries, and the general public.

Functions as first deputy to the Dean and serves as Acting Dean whenever the Dean is out-of-state or absent from his office.

Recommends program policies and budgetary priorities of the Institute for the Dean's approval.

In consultation with the Associate Dean of Academic Affairs, recommends personnel appointments, promotions and tenure, leaves and other actions pertaining to Institute personnel for the Dean's approval.

Participates in coordinating the Institute's activities with those of Academic Affairs.

Directs the programs and operations of the Institute through three Assistant Directors, whose responsibilities are as follows:

--- Assistant Director for Agricultural and Applied Behavioral Sciences Research

In close coordination with Academic Affairs, administers disciplinary based research programs in the agricultural and applied behavioral sciences in accordance with the international, regional and State research mission and graduate instructional needs of the College.

--- Assistant Director for Agricultural and Resource Development

Administers research and development programs designed to resolve specific problems of an industry, commodity, resource or clientele group in order to facilitate food production, promote community development and improve the standard of living throughout the tropical areas of the world. Special emphasis will be placed on research and development projects of immediate interest as well as potential applicability to the State of Hawaii. An important responsibility is to ensure the maximum degree of coordination and mutual benefit will be attained between State programs and international projects.
Assistant Director for Cooperative Education Services

Administers the research data system, information dissemination and cooperative education services. These services will be provided to industries, communities, families, organizations, farmers, home owners, other individuals and the general public to ensure that the needs of these clients in each of the counties or throughout the State as a whole are met. This will include a technology assessment and transfer program to facilitate the application of research findings to problems in Hawaii and to other tropical areas of the world.

Performs other duties as assigned.

Office of Management Services

Under the general policies and guidelines approved by the Dean, the Director of Management Services assumes responsibility for the management staff functions that are necessary to support the effective administration of the College. The position reports directly to the Dean of the College. Major functions are as follows:

Program Planning

-- Develops, implements and directs a long range planning system in accordance with federal, State, University and College requirements and procedures.

-- Coordinates program planning within the College and with federal, State and University planning activities.

-- Recommends long-range, intermediate and short-range objectives for the College and submits priorities among programs for the Dean's approval.

-- Develops and implements a program evaluation system based on the concept of management by objectives to improve the effectiveness of programs.

Personnel Management Services

-- Develops, implements and directs the personnel management system of the College in accordance with federal, State, University and College requirements and procedures.
-- Recommends a staffing plan in accordance with program plans, needs and priorities.

-- In accordance with approved program plans and objectives, develops and implements a personnel management and performance evaluation system which would extend the concept of management by objectives throughout the organization.

-- Maintains a recruitment, appointment, classification and compensation, training, promotion, tenure, leave and benefits system for the College based on established rules and policies and contractual provisions of collective bargaining agreements.

-- Maintains a central personnel records system.

Facilities and Fiscal Services

-- Plans and provides for proper maintenance of facilities and space internally within the College and coordinates these requirements with the Office of Physical Planning and Construction or the Facilities Management Office.

-- Based on approved program plans and budgetary procedural requirements, develops long-range fiscal projections, prepares biennial budgets and administers the annual funding allocations of the College.

-- Participates in the negotiation and administration of contracts and grants.

-- Reviews or approves purchases, payments, transfers of funds and other fiscal transactions of the College.

-- Maintains the accounting and other fiscal records of the College.

Organization and Management Services

-- Recommends organizational changes and/or innovative management practices in order to improve the effectiveness of program operations.

-- Develops management systems on the basis of both available data and information and coordinates these with the University Management Systems Office to develop new systems required by the College.

-- Performs other management services as assigned.
Office of Planning and Management Systems

Under the general direction of the Dean and Director, CTIAHR, this office provides staff support to the HITAHR Director and Associate Dean for Academic Affairs in developing and maintaining an integrated instruction, extension and research management system for program planning, project budgeting, project management, evaluating, and reporting. An integrated instruction, research and extension management information systems will be developed and maintained to provide data required to plan and manage CTIAHR programs.

Planning and Project Budgeting

--Coordinates the program/project planning activities of the College.

--Conducts analyses of proposals in accordance with approved program plans and priorities.

--Coordinates the program/project budget review and allocation process and recommends funding levels for programs and projects based on decisions made by college administrators.

--Participates in the effort to maintain, develop and improve the agricultural industry analysis and action plan system.
Project Management

--Coordinate the preparation of project proposals in accordance with program objectives and priorities.

--Submits proposals, progress reports and evaluations to the USDA as required by federal laws and regulations.

--Monitors the implementation of program/projects approved by CT&AR administrators.

--Participates in discussions with agricultural industry leaders to determine program priorities and directions for agriculture in Hawaii.

Management Systems

--Provides for development, implementation and maintenance of a fully integrated research, extension and resident instruction management information system in support of administrative operations and decisionmaking.

--Maintains standards for procurement and maintenance of computer hardware and software systems.
---Provides for staff training in computer utilization.

Facilities

---Assists the Dean, HITAH's director, and Associate Dean in matters pertaining to HITAH's Capital Improvement Projects and Repair and Maintenance Projects.
Office of Administrative Services

Under the general direction of the Dean and Director, CTAHR, this office performs personnel, fiscal, organization, and other related administrative management functions for the College.

Personnel Management Services

--Develops, implements, directs and evaluates the personnel management system of the College in accordance with federal, State, University and College requirements and procedures.

--Assists Associate Dean and Director of HTAHR in preparation of the College staffing plan.

--Coordinates recruitment procedures to fill staff needs in accordance with approved staffing plans and program priorities.

--Administers the appointment, classification and compensation, training, promotion, tenure, leave and benefits system for the College based on established rules and policies and contractual provisions or collective bargaining agreements.

--Develops, directs and manages a central personnel records system.
Fiscal Services

--Administers the annual and quarterly expenditure plans of the College, based on approved allocations.

--Participates in the negotiation and administration of contracts and grants.

--Reviews, evaluates and approves purchases, payments, transfers of funds, and other fiscal transactions of the College.

--Manages the accounting and other fiscal records of the College.

--Develops new fiscal information systems and maintains existing financial systems.

--Assumes responsibility for establishment, maintenance and accountability of equipment inventory.

--Is responsible for financial statements required by federal, state, or private agencies and organizations.

Organization and Management Services

--Recommends organizational changes and/or innovative management practices in order to improve the effectiveness of program operations.
- Implements administrative systems needed to improve the business operations of the College.

- Performs other management services as assigned.

**Budgeting**

- Administers required inputs for university and state budgets.

- Is responsible for the execution of approved budgets.
FUNCTIONAL STATEMENT

HAWAII INSTITUTE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES

COUNTIES

COUNTY ADMINISTRATION

The CTAHR will provide research and extension education services to the farmers, ranchers, industries, homeowners, homemakers and other residents of a county primarily through a county organization for each county. Each county will have a County Administrator who reports to the Director of HITAHR through the Assistant Director for Cooperative Extension Services. Major functions of the County Administrator are as follows:

1. Develop and implement long-range and annual plans of work to meet the needs of the county for research and extension education services provided by HITAHR.

2. Be involved in the development of State plans for the commodities and resources of the county to assure coordination between county and state plans.

3. Serve as the Dean's representative in the county in dealings with the county government, other state agencies located in the county, various advisory groups, and industry and community leaders.

4. Supervise the implementation of projects developed to meet priority areas of county programs.
Provide general supervision for faculty assigned full-time to the county.

Evaluate extension agent and specialist faculty assigned to the county in the manner of a department chairman as called for in the faculty handbook and contract, including inputs from department chairpersons and program leaders as appropriate.

Participate in the promotion and tenure evaluation of other county-based faculty and evaluate their performance from the standpoint of how effectively they are servicing county needs and making efficient use of their time in meeting other assigned responsibilities.

Secure operational and programmatic support from NIH/NR to enable faculty working in the county to function effectively and meet critical needs or problems.

Assume responsibility for custody, allocation and maintenance of budget, space, equipment and facilities for all NIH/NR activities in the county.

Supervise the administrative and technical staff and ensure effective support for all activities conducted within the county.
Oversee the appointment of advisory committee and staff assignments needed to serve organized clientele groups, field days, county fairs and similar activities important to the College.

- Administer applicable fiscal and personnel policies and procedures.

**HITAIR PROGRAM IN COUNTIES**

HITAIR will conduct programs in counties based upon county priorities, industry and resource priorities, and discipline principles. Priorities will be developed through a systems analysis approach involving community, industry and resource groups, government agencies and University faculty and administrators. The priority programs will be carried out through the following functions:

**Disciplinarity Research.** Research faculty located in the counties conduct research related to discipline priorities. Extension faculty are expected to contribute to the development of extension education as a discipline. The detailed functions involved are:

- Develop knowledge in their discipline relative to the mission of the Institute to provide a base of information to solve future problems and lead to desirable innovations.
Plan, develop and conduct experimental projects.

Prepare manuscripts or reports for publication in scientific journals and other publications.

Participate in departmental activities to the extent permitted by travel funds and time.

Keep up with new developments in the discipline.

Interdisciplinary Research and Development. All faculty are involved in multidisciplinary activities related to commodity and resource priorities. The specific functions involved are:

Participate in developing specific statewide and county industry and program analyses which are designed to establish research and development priorities for each industry, commodity or clientele group in the state and the respective counties.

Participate in NITAIR interdisciplinary research and development teams to carry out programs and projects designed to develop the agricultural, natural and human resources in accordance with the priorities established by statewide and county industry and program analyses. Participate in international projects as appropriate.

Conduct field and other research projects aimed specifically at solving particular problems of an industry or client.
- Develop and maintain effective working relationships with governmental agencies, members of the industry or client group and county personnel involved in extension education programs of statewide significance.

**Extension Education and Services.** The faculty in a county, backed by other MTAHR resources, are responsible for defining and carrying out projects and services of county priority. The extension agents and the specialists located in counties direct most of their activities to county priorities, but the specialists in particular may also have statewide responsibilities. Researchers located in the counties direct most of their efforts to disciplinary and interdisciplinary research of both statewide and county priorities, but are expected to make their particular expertise available to county extension activities when needed.

- Prepare annual county plan of work in accordance with county needs and priorities.

- Work with advisory committees and local residents in applying problem-solving skills in the development of agriculture, home economics, 4-H youth development and community resource development programs.

- Develop and maintain a program of training and management for volunteer youth and adult community leaders.
Develop and carry out educational programs and services which are designed to help residents solve their problems and to improve the quality of life in the county. Participate in international projects as appropriate.

Carry out information dissemination activities as well as feedback information to area specialists and state program leaders in order that program plans may be based on up-to-date information of county needs and problems.

Develop and maintain effective working relationships and, where appropriate, act in a coordinating or liaison role with a wide variety of agencies, organizations and individuals in support of county programs.

Participate in various organizations designed to promote family life and community development.

Prepare bulletins, newspaper and magazine articles, radio or TV scripts, circular letters and other educational materials for dissemination to users of the information.
Other. All faculty have additional responsibilities as professionals.

- Keep abreast professionally of latest knowledge, methods and technical developments in his or her field and engage in professional improvement activities.

- Develop criteria for and participate in peer review process for project and publication review and for tenure and promotion of faculty.

- Participate in the governance of the county organization, the College and the University of Hawaii at Manoa.

- Participate in other activities of the College or the University as appropriate.
STATE OF HAWAII
UNIVERSITY OF HAWAII AT MAOEA
COLLEGE OF TROPICAL AGRICULTURE

MAJOR FUNCTIONS
DEPARTMENT OF AGRICULTURAL ENGINEERING

Responsible for programs of instruction, research, and extension having an emphasis on the engineering application of the basic physical, mathematical, and biological sciences to problems of tropical agriculture. Principal functions performed by the Department are the following:

• Transmit technical knowledge concerning the application of engineering to industries associated with the production, processing, and handling of food and fiber.

• Teaching of specific skills related to the field of agricultural engineering so that students may complete tasks of an engineering nature.

• Explore ways of creating the required engineering technology for successful use of the state’s agricultural resources.
Departmental Functions
Department of Agricultural and Resource Economics
College of Tropical Agriculture

Research

The department conducts applied and basic research in the economic analysis of agricultural and resource problems. Specifically, the department conducts research in production economics, farm management, land economics, marine economics, environmental economics, energy use in agriculture, rural development, marketing, market development, market potentials, agricultural policy and agricultural finance. The research is financed by state, federal, county and industry funds.

Extension

Extension specialists in the department extend research findings to extension agents and producer groups, identify economic problems in agriculture requiring research, assist in organizing cooperatives and marketing orders, and provide economics training sessions to extension agents and producer groups. The extension specialists also conduct applied economics research on marketing and production problems relating to agriculture.

Instruction

The department offers B.S., M.S. and Ph.D. degrees in agricultural economics. Typically 10 to 15 graduate students are employed as research assistants on HAES projects. These assistantships are financed by state and federal funds and grants from agricultural producers and processors.
UNIVERSITY OF HAWAII AT MANOA
College of Tropical Agriculture
Department of Agronomy and Soil Science

Department Chairman

Department Office Activities

Under the supervision of a Secretary-Store, the general office is responsible for preparing all requisitions, purchase orders, and bookkeeping. The office does most of the typing of correspondence, manuscripts, and reports to the public from the extension specialists. It is also responsible for maintaining the general files as well as personal files of all graduate students and staff. All duplication by Xerox and Ditto is done in the office.

Departmental Research Activities

Research in the Department covers several activities in tropical crop and soil science. Communities emphasized are primarily field, forage and plantation crops such as corn, sorghum, pasture legumes and grasses, pineapple, sugarcane, papaya, macadamia, etc. The activities can be divided into (a) Resource Description and Inventory which includes soil classification and characterization, soil genesis and formation, resource conservation and development, soil physics, and soil chemistry; biology and fertility; (b) Crop Protection; (c) Improving the Biological Efficiency of Plants and Animals which includes plant breeding, selection, and introduction, crop and pasture management, alternative crops for Hawaii, and crop physiology. Both applied and basic research is conducted.

Departmental Instructional Activities

The curriculum in the Department provides specialized education in the areas of crop and soil science with the target group being undergraduate and graduate students both within and without the Department. The courses generally cover the activities listed under research activities. The undergraduate major has options in either crop or soil science. The graduate program provides graduate training and education beyond the B.S. level with options in both tropical crops and soil science. Master of Science under Plan A, B, or C are offered. The degree is designed to train individuals for careers in agriculture technology or prepare qualified graduate students for pursuing their education to the Ph.D. degree. The Doctor of Philosophy program is offered with the same two options to qualified students to provide training leading to the development of independent investigators who will be capable independent researchers, educators, or extension specialists.

Departmental Extension Activities

Specializes within the Department disseminate the information generated by our researchers to farmers, ranchers, and plantation agriculture. The Department also offers soil and tissue testing and makes fertilizer recommendations to farmers and homeowners.
The Department of Animal Sciences has three broad functional units, namely, Instruction, Research and Extension.

Instruction

The instructional unit functions at the undergraduate level are: (1) to provide instruction and other means for a student to acquire a broad educational base in Animal Sciences. This broad base instruction serves as a part of the university and college core curriculum and includes studies in animal nutrition, physiology, genetics, disease and production. (2) To provide advice and council on education and careers and (3) to supply instruction and directed study that will give majors in animal sciences the technology needed for careers in animal or animal related industries.

At the graduate level the unit's function is to provide instruction, direction and opportunity to learn at a highly specialized level as needed by prospective researchers, teachers or extension educators in the fields of animal nutrition, genetics and breeding, physiology and reproduction.

Research

The primary function of the Animal Sciences research program is to discover new facts within the animal specialty areas of breeding and genetics, disease, nutrition, physiology and management that have relevance to primarily state, but also national and international, livestock production industries. Basic and applied research is conducted with beef and dairy cattle, swine, poultry, domestic rabbits and some aquatic species. This research is essential to the development of production systems suitable to our local conditions and which make maximum use of available local resources.

Research is an integral part of most graduate student programs. Most graduate degrees require research leading to a thesis or work in the student's area of specialization.

Extension

The major function of the Cooperative Extension Service program of the Animal Sciences Department is to aid in diffusing among the people of Hawaii useful and practical information on subjects relating to animal agriculture and to encourage the application of the same. In addition, public service and continuing education is offered to persons (agriculturists) who will work in other tropical areas of the Pacific and Asia.
STATE OF HAWAII
UNIVERSITY OF HAWAII
UNIVERSITY OF HAWAII AT MANOA
COLLEGE OF TROPICAL AGRICULTURE
DEPARTMENT OF BOTANY, HAWAII AGRICULTURAL EXPERIMENT STATION

FUNCTIONAL STATEMENT

(1) Directs activities, research programs and personnel in the Department of Botany, Hawaii Agricultural Experiment Station, which provides (i) research and service to the agricultural and forestry industries of Hawaii, (ii) research, services, and advice to State and Federal agencies, (iii) a resource of basic research expertise in plant physiology and ecology to other units of the College of Tropical Agriculture, and (iv) information necessary for decision making on problems and issues in ecology and conservation in Hawaii.