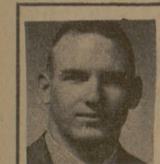


Specialist Outlines Many Changes In Current U. S. Farming Picture

By James E. Kirby
Agricultural Extension Service
 Changing economic conditions under which the American farmer has operated for more than four decades have long outranked the weather as a dominant threat to his economic survival. Many have not survived.
 Farmers as a percent of the total U. S. population have been declining for many years, but the actual decline in numbers of farmers did not begin until World War II. Since this movement started, there have been revolutionary changes in farm size, in land use, and in technological applications.

This revolution in rural America has caused the farmer, who has chosen to remain on the farm, to constantly search for ways to be more economically efficient in stay in business.

One of these ways is to in-



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crease production without a similar increase in costs. This is accomplished either through use of improved practices on the same amount of land or by increasing the number of acres where factors of production can be used more profitably on the larger acreage. As a result of these changes, the small farm, under \$5,000 in sales, has decreased steadily in numbers since 1939.

The farm unit selling between \$5,000 and \$10,000 in products increased in the 1940's but declined in number of units in the 1950's.

It is the farm with gross sales over \$10,000 that has grown steadily in number. In this larger economic segment, the family farm is the fastest growing group. Dairying, field crops—except cash grain and cotton—and poultry are the types of farms most numerous in this expanding sector.

In Texas, 79 percent of all farm marketings are from farms with gross sales of more than \$10,000. Most of the Mountain and Pacific states have units as large or larger. In California, Arizona and Nevada, over 90 percent of the farm marketings are from

units with gross sales greater than \$10,000. The other end of the scale is the Appalachian Region where only about 40 percent of the farms operate above this economic level.

The total number of farm units in the nation declined from 5.8 million in 1939 to about 3.4 million in 1964. Of this 2.4 million decrease in actual numbers, 95 percent were in farms producing less than \$2,500 in gross sales.

The number of farms with gross sales of \$10,000 or more increased 159 percent from 1949 to 1959, but their average marketings per farm increased only 20 percent. These farms now include 56 percent of all land in farms, compared with 40 percent in 1949.

Because many farm units have increased their economic size without increasing their acreage, the average size of farms with sales more than \$10,000 has decreased. In 1949 the average size was 963 acres, in 1959 it was 795 acres.

The increase in the size of economic farm units has not significantly altered the proportion of land tenure operators. About 55 percent of farm land is still

operated by the owner, 35 percent by renters, and 10 percent by paid managers.

2 A&M Profs Tropics Bound

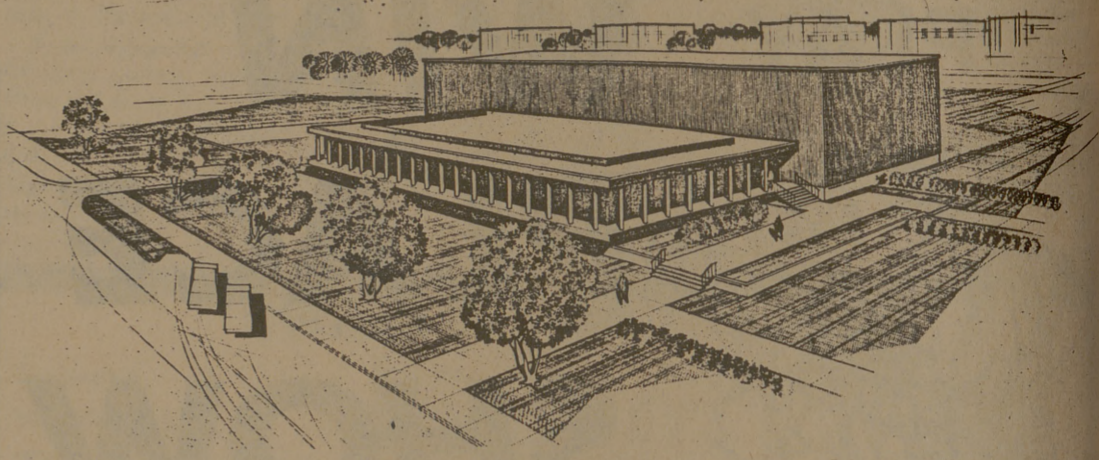
More information about tropical rainfall patterns is the goal of two Texas A&M faculty members who leave Thursday for Central and South America.

Assistant Professor Walter K. Henry and Instructor Glenn Cobb will spend three weeks on their fourth trip southward to gather data. The Army Signal Corps sponsors the research.

The A&M researchers will contact ranchers, farmers, lumber companies, governmental agencies and anyone else with rainfall records.

This is the first year for the project to include Venezuela, the Guianas and Brazil. Last year the researchers visited Colombia and the west coast of South America.

The gathering of tropical rainfall data is preliminary to efforts to understand the patterns.



ARTIST'S SKETCH OF A&M CYCLOTRON
 ... construction is underway on the \$6 million project.

Cyclotron Construction Now Well Underway

By Steven Wilkes

According to Whitney McFarlin, acting chief engineer for the Cyclotron Institute, Texas A&M will soon have "one of the largest cyclotrons of its kind in the world."

Construction of the cyclotron began this summer. It will occupy a 10-acre site at the corner of Spence Street and Farm Road 60 on the main campus.

Expected to be completed in mid-1967, it will be comparable to the 88-inch cyclotron at the Lawrence Radiation Laboratories in Berkeley Calif.

Basically, a cyclotron is a device for accelerating various nuclear particles to energies which will enable these particles to penetrate the nuclei of atoms.

The cyclotron being built here is known as a "spiral ridge" type. The ridges focus the beam of charged particles during acceleration and allow an increasing magnetic field within the radius of

the magnet to be utilized. Otherwise if the beam was not focused, it would have a tendency to diverge and become useless.

The cyclotron will be capable of accelerating protons to energies of 55 million electron volts (MeV), deuterons to 65 MeV and alpha particles to 130 MeV.

\$6 million has been provided for the building and the cyclotron proper. The Atomic Energy Commission is granting \$3 million for construction of the cyclotron proper; the Robert A. Welch Foundation is donating \$1 million for the ion-optics system and support equipment; Texas A&M will contribute \$2 million for the building and laboratories.

The building itself will be divided into two main sections. The first unit, which consists of a basement, sub-basement and first story, will be used for offices, laboratories, engineering, control, counting areas and machine shops. The second part is known as the

"high bay" area and will house the cyclotron proper. The combined area will be approximately 45,000 square feet.

Nearness to the physics and chemistry departments was a factor in selecting the building site. It will also be convenient to the Data Processing Center since a hookup between the computer and the cyclotron is anticipated.

Dr. A. D. Suttle, Jr., vice-president for research at Texas A&M is the project manager for the Cyclotron Institute. Directly under him are three main departments: (1) Science and Research Program headed by Dr. J. A. McIntire, (2) Administration and Support directed by Dr. D. A. Clark and (3) Engineering, Construction and Operations which is under the supervision of McFarlin.

McFarlin said the cyclotron would be used primarily for nuclear research, chemistry, activation analysis, radiation biology and engineering sciences.



When actress Jill St. John performed this Afro-Jazz striptease for a scene in "The Oscar," being filmed in Hollywood, 54 male extras were actually paid to be her audience.

THEY WERE PAID TO WATCH THIS
 Miss St. John got down to a costume weighing five ounces at her finale. (AP Wire-photo)

Management On Upswing

More and more business and industrial executives are returning to the classroom seeking knowledge and insight to prepare for more responsibility.

The trend toward special management schooling is growing steadily, Dr. John E. Pearson

said. He heads the Texas A&M School of Business Administration which long has offered management programs.

Varied business and industrial firms in the Southwest turn to Texas A&M for managers. Men—usually in their 30s or 40s—come to the A&M campus for periods of up to three weeks.

The rapid changes confronting industry are behind the increased interest in specialized programs for managers, Dr. Pearson said.

"The management development programs we provide would be very difficult for individual firms to conduct," he noted. Dr. Pearson said some of the nation's largest corporations with exten-

sive internal training programs send managers here.

The classroom exchange among executives from a cross section of the business and industrial world are one advantage of A&M's program.

The managers spend long hours in group study and discussion. They hold conferences with businessmen of national reputation.

Dr. Pearson said the trend toward increased interest in these programs is reflected by questions concerning the Management Seminar scheduled Oct. 24-30. This will be the second seminar of the year and the ninth since A&M pioneered the program in 1962-63.

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Sealed bids will be received in the office of the Director, Texas Forest Service, College Station, Texas, until 10:00 a.m., Tuesday, August 31, for the following described items:
 Model 112 A. B. Dick Photocopier
 A. B. Dick Photocopier Work Table
 A. B. Dick Photocopy Paper Dispenser
 Forms to submit bids are available upon request. 1972f

Table and four chairs, \$10.00. Shelvador ice box, \$30.00. 1500 South College. TA 2-6221. 1972f

House for sale by owner—Two bedroom brick attached garage 220 wiring, beautiful trees, fireplace, fruit and pecan trees. Reasonably priced. \$48-6581. 1972f

One bedroom, furnished house, clean, 2 large closets, washer connections, 220 screen back porch, attached garage, new roof, cast iron sewer line. 846-5634. 1967fn

Baby bed, \$15.00. VW luggage rack, \$15.00. 846-8521. 1967fn

1965 Volkswagen, sea-blue, sedan, white-walls and radio. See at Hensel Y-1-F. 1947fn

Two bedroom home, garage, cyclone fence, near schools and shopping center. owner—846-5980. 1947f

For sale by owner—House and ten acres, close to A&M Dairy on F&B Road. Call 846-4293 for appointment. 1937fn

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SPECIAL NOTICE

SUL ROSS LODGE NO. 1300 A.F. & A.M. Called meeting Thursday, August 26, 1965, 7:00 p. m. The Master Mason's Degree will be conferred. W. W. Spurlock, W. M. Joe Wooltek, Sec'y 1981f

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Official notices must be brought or mailed so as to arrive in the Office of Student Publications (Ground Floor YNCA, VI 6-6415, hours 8-12, 1-5, daily Monday through Friday) at or before the deadline of 1 p. m. of the day preceding publication—Director of Student Publications.

for advanced degrees**
 August 13-14 Graduate Record Examination
 August 20 Last day for filing three copies of theses and dissertations with the Graduate College**
 August 27 Last day for final examinations August 28 Foreign language examinations for Ph.D. candidates

 Required of all graduate students who have not taken the Aptitude Test and an Advanced Test of the GRE. To receive credit pay \$5.00 at the Finance Office and take receipt to the Graduate College Office.

**Applications for degrees must be filed at both the Graduate College and the Registrar's Office.
 ***Failure to submit theses and dissertations by specified dates will result in automatic cancellation of applications for degrees.
 Note 1: Candidates for doctoral degrees are reminded that the scheduling of final examinations is now published under "Official Notices" in The Battalion. Forms for this purpose, available at the Graduate College, must be submitted to the Graduate College no later than one week prior to the day of the examination.
 Note 2: Final copies of theses and dissertations should be filed with the Graduate College at least one week prior to the final examination.

PH.D. LANGUAGE EXAMINATION
 Examinations for meeting the foreign language requirement for the Ph.D. degree will be given Saturday, August 28th, at 8 to 11 a. m. in Rooms 125-127, Academic Building. Students wishing to take this examination should apply to the Graduate Office for a letter of authorization not later than August 20th. Instruction sheets are available from the Secretary in the office of the Department of Modern Languages. Candidates should bring to the examination: (1) a pen or pencil; (2) an dictionary; their ID card. 1963f

GRADUATE COLLEGE CALENDAR,
 SUMMER SESSION 1965
 FAILURE TO MEET CERTAIN REQUIREMENTS BY THE TIME SPECIFIED MAY RESULT IN THE POSTPONEMENT OF RECEIPT OF THE DEGREE
 Second Term, July 19 - August 27
 July 19 Registration for the second term
 July 20-25 Registration for the Graduate Record Examination*
 July 30 Last day for filing applications

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Robertson, Bobby Ken
 Candidate for Degree of: Doctor of Philosophy In: Chemistry
 Title of Dissertation: An X-ray Refinement of Pyridine Hydrogen Nitrate and X-ray Structure Determination of 2-Pyridinium Tetrakisbromomethane (III)
 Time of Examination: Thursday, August 26, 1965, 3:00 p. m.
 Place of Examination: Chemistry Building, room 231
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Pierce, Kenneth R.
 Candidate for Degree of: Doctor of Philosophy In: Veterinary Pathology
 Title of Dissertation: A Study Of The Role Of Estrogens and Estrogen Metabolism in the Pathogenesis of Canine Hip Dysplasia
 Time of Examination: August 26, 1965, 3:00 a. m.
 Place of Examination: Room 212, Veterinary Medicine
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
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 Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Yeager, Lowery Dale
 Candidate for Degree of: Doctor of Education In: Industrial Education
 Title of Dissertation: An Experimental Study To Determine The Value Of Projectuals In Presenting Selected Units Of Basic Electricity.
 Time of Examination: August 26, 1965, 3:00 p. m.
 Place of Examination: M. E. Shops, room 107
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Cesani, Fernando A.
 Candidate for Degree of: Doctor of Philosophy In: Physics
 Title of Dissertation: A Search For Double-Minimum Potential Functions in Excited States of Benz Triatomic Molecules.
 Time of Examination: Friday, August 27, 1965, 2:00 p. m.
 Place of Examination: Room 146, Physics Building
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Fitzhugh, Jr. Henry Allen
 Candidate for Degree of: Doctor of Philosophy In: Animal Breeding
 Title of Dissertation: A Biometrical Evaluation of Weight of Beef Cows and Performance of Their Progeny.
 Time of Examination: August 27, 1965, 9:00 a. m.
 Place of Examination: Room 203, Animal Industries Building
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Miller, Donald Bradford
 Candidate for Degree of: Doctor of Philosophy In: Meteorology
 Title of Dissertation: The Estimation of Evaporation From U. S. Weather Bureau Class A Pans.
 Time of Examination: August 27, 1965, 8:00 a. m.
 Place of Examination: Goodwin Hall, room 309
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Candidate for Degree of: Doctor of Philosophy In: Electrical Engineering
 Full Name of Candidate: Ivy, Edward Weber
 Title of Dissertation: An Analysis of Distributed Lag in Feedback Control Systems With General Impedance Termination.
 Time of Examination: August 26, 1965, 2:00 p. m.
 Place of Examination: Room 116, Bolton Hall
 Wayne C. Hall
 Dean of Graduate Studies

THE GRADUATE COLLEGE

Announcement of Final Examination For The Doctoral Degree
 Full Name of Candidate: Ma, Shih-yu
 Candidate for Degree of: Doctor of Philosophy In: Chemistry
 Title of Dissertation: Preparation of Some Diaminoalkyl Phosphonic Acids
 Time of Examination: May 27, 1965, 10:00 a. m.
 Place of Examination: Room 231, Chemistry Building
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