

UA Will Send 10-Man Agriculture Team to Brazil

Darrel S. Metcalfe

The College of agriculture is going Brazil! Last October, at Washington, a contract was officially signed with the Agency for International Development (AID) for a program between The University of Arizona and the University of Ceara, Fortaleza, in the State of Ceara, northeast Brazil.

The contract, with a budget of \$800,000, is for a two-year period, until April 1, 1966. In all probability it will be renewed at the close of that time. It calls for 10 UA College of Agriculture staff members to help the College of Agriculture at the University of Ceara improve its teaching, research and extension.

This all started in February, 1962, when AID asked The University of Arizona whether or not it would consider a contract with a university in Brazil, especially in the Northeast, since conditions are arid there and thus similar to the U.S. Southwest.

Survey Team Recommends

In June and July of that year a survey party composed of Dr. A. L.

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McComb, Head of Watershed Management, Dr. J. S. Hillman, Head of Agricultural Economics, and Dr. D. S. Metcalfe, Director of Resident Instruction, was sent by AID to study colleges and universities of agriculture in Brazil, make recommendations for their improvement and also consider possibility of a contract with a university or universities in northeastern Brazil. This survey team wholeheartedly recommended a contract with the University of Ceara.

Many months were spent in writing the contract and preparing a budget. Because of the large number of agencies involved, considerable consultation and correspondence was necessary.

As stated in the contract, objectives and scope of work are that: "The University of Arizona will provide technical advice and assistance to AID and to the cooperating country for improvement in agricultural productivity, increased efficiency in utilization of agricultural resources, and higher standards of living for the rural population through development of a "land-grant college" type of philosophy in education, research and extension.

Several Agencies Involved

"The University of Arizona will work in close coordination and cooperation with the College of Agriculture, the Institute of Rural Technology, and the Institute of Animal Science, University of Ceara, Fortaleza; the Superintendency for the Development of the Northeast; the Ministry of Education and Culture; Agencies of the Government of Brazil; and the U.S. AID."

Duties of The University of Arizona are spelled out:

1. Provide regular staff members to serve in the cooperative program of agricultural development.

2. Provide short-term staff members as consultants in specialized fields of agricultural teaching and research training.

3. Develop and provide trainee programs in the United States for selected staff members or other technicians designated by the University of Ceara to orient them to the US land-grant college philosophy and improve their capabilities as teachers, researchers and workers in agriculture.

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influences heat absorption. Desaturated colors absorbed substantially more heat than the brightest colors measured. Again, there was approximately 10 percent difference in the amount of heat absorbed by grayish and moderate colors. The difference became larger between moderate and moderately bright and decreased as the colors became brighter.

Color Affects Wear

Now, let us combine the three attributes into a familiar color such as a green asphalt shingle. This color was matched in paint. Since the pure inorganic pigment was brilliant green, it was grayed to a match with a black pigment. When the temperature of the grayed medium green was measured, the results showed that it absorbed 94 percent as much heat as the surrounding blacks. About the time that this experimental work was completed, a local roofing company reroofed a house which the company

had roofed 11 years before. The original roof was of multicolored shingles. During the 11 years the green shingles had deteriorated and the red shingles were in good condition.

There are two methods by which brilliant colors may be grayed and made acceptable for general use. Another part of the experimental work was to compare the heat absorption of a group of colors which were grayed by each of the two methods. Pairs of the brilliant colors were grayed to a visual match. The member of each pair which was grayed with black absorbed about 90 percent as much heat as the adjacent blacks. The colors which were grayed with their complementary colors remained at about the same temperature as the brilliant color from which they were made. Colors which were grayed with their complement were as much as 30 percent cooler than the matching color which was grayed with black. The result of this work indicates that the rise of grayed colors is a function of black.

Nature's Colors Most Pleasing

Experiments on the visual aspect of this research are under way. Human subjects are being used. Eye comfort may not be possible in the arid land where the incident light exceeds 10,000 foot candles. Tolerance can be attained. While a complete analysis of these data has not been made, the results show that the desert colors — the earth and natural vegetation, rank at the top in eye comfort. If you want to purchase colors by reflectance, the upper threshold for tolerance of most hues is about 30 percent. The more highly saturated the mixture becomes, the less comfortable it is to the eye.

Is blue cool? Is blue comfortable to look at? Which of the many, many man-made blues are you referring to? Is it pure? How much lightness does it reflect? How much blue pigment does it contain in proportion to gray? How was it grayed? The answers to these questions are much more important than whether its first name is baby, sky, periwinkle, royal or China Sea.

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4. Provide consultation, on request, with US AID/Northeast Brazil in connection with proposals of operations for development of the AID agriculture section for the region.

Research, Extension, Teaching

5. Provide advice and assistance, including technical services, training, and equipment, to the University of Ceara for improved methods in graduate research and extension in several specialized fields.

6. Support short-term training courses within Brazil by providing local transportation and per diem for Brazilian professors or technicians, additional interpreters and translators, special teaching materials, reproductions and other necessary materials.

7. Provide advice to the US AID and the University of Ceara on the selection of materials and equipment for the use of the Contractor's field staff necessary to the performance of their duties under this contract.

8. Make available executive personnel for review of the progress of the project, and make recommendations for any changes needed to improve the program.

9. Cooperate with other colleges and areas in the University of Ceara in development programs or activities directly or indirectly related to the projects in the College of Agriculture.

It's a Two-Way Street

In addition, the following will be performed for the University of Ceara:

1. Assist in teaching subject matter courses and conduct specialized courses.

2. Provide advice to the Dean, College of Agriculture, the Director of the Institute of Rural Technology, and the Director of the Institute of Animal Science, towards strengthening specific areas within their program.

3. Aid in the development of (a) surveys of educational needs, (b) improved curricula and courses, and (c) improved teaching methods.

4. Provide assistance in organization, administration and approach to the development of research projects.

The University of Arizona College of Agriculture will provide qualified professional personnel for contract duty at the University of Ceara, in the following areas:

Mrs. Keith Retires as Davis Goes to Cattlemen

Progressive Agriculture joins the many other friends of Mrs. Abbie W. Keith, Wm. C. Davis and Lee Athmer in best wishes for their new activities.

On Dec. 1 Mrs. Keith, grand lady of the Arizona Cattle Growers Assn., retired after 40 years as secretary of that association. She was succeeded by Bill Davis, who has been executive secretary of the Arizona Farm Bureau Federation for the past 10½ years.

Bill, in turn, is succeeded in the Farm Bureau job he handled so well by Lee Athmer, young, energetic and perspicacious Farm Bureau information director in Arizona the past year or two.

One of the pleasantest contacts, for those of us in the College of Agriculture who are interested in the beef cattle industry, has been the occasional visits with Mrs. Keith, either in her office or at any of various cattlemen's affairs.

Always she has been gracious, unfailingly good-humored and cooperative with any request we might make. We wish her all happiness in her retirement.

Bill Davis has worked closely with administrators and staff members of this college on a score of projects helpful to Arizona agriculture. He, too, is highly esteemed by all of us, and goes to his new assignment with our best wishes.

Lee Athmer, with becoming modesty, admits ruefully that he has "a mighty big pair of shoes to fill." Having observed Lee at work and knowing something of his thorough background of training and experience, we have no concern lest he handle the top FB job in the state with complete competence.

Undisturbed by these various changes is the implicit understanding that the friendly cooperation and mutual understanding between this college and the various farm and agriculture-related organizations in Arizona will continue as always — mutually harmonious and reciprocally helpful.

Chief of the Group (development and implementation); Research and Experiment Station Administration, Soil Science, Food and Fiber Crops, Crop Production, Animal Science, Agricultural Engineering, Agricultural Economics, Horticulture, and Agricultural Extension.

The local contract staff at The University of Arizona will include a campus coordinator, half time, and a secretary, half time.

Better Management Need of Poultrymen

Better management is needed to insure a bright future for Arizona's \$7 million poultry industry, says Dr. Franklin D. Rollins, extension poultry specialist with The University of Arizona.

The first step in getting better management, he said, is to keep careful records of production costs. "Reliable figures on the cost of producing eggs are not readily available. Poultry records should be sufficiently complete to provide figures on a monthly basis," he points out.

Experience, he said, has shown that Arizona poultrymen should aim for these goals:

1. An egg production record of not less than 240 eggs per bird.
2. A mortality rate on chicks and hens of no more than 15 per cent per year.
3. Consumption of from 4.3 to 4.4 pounds of feed per dozen of eggs.
4. Housing 95 per cent of replacement chicks.
5. Efficient use of buildings and equipment.
6. Mechanization only after labor costs are well enough known to know definitely whether the move pays.

Dr. Rollins says the hopes of Arizona poultrymen lie in the production of a quality product. "Egg producers in Arizona have a bright future if a quality product is produced. At present they are producing about 42 per cent of the state's egg needs," says Rollins.

UA TEAM 4th IN STOCK JUDGING

A U. of A. livestock judging team placed 4th with 11 teams competing in the inter-collegiate contest at the Cow Palace, San Francisco. Tom Husted won the coveted first place Western Horsemen's trophy for top individual horse judging honors. Other team members were David Knoll, Frances Romanoski, Bill Sanderson, Douglas Clark, Ronald Thomas. Team coach, Dr. Byron Greiman.