

Water Research Project 5002

Rainfall Data Recorded In 3 Counties

Country store chats, old fire-arms and pioneer American homes dovetail with rainfall records collected from the East Yegua Creek basin.

Water Research Project 5002, under Texas A&M University me-



THE YOUNGEST ...

teorology professor Dr. Robert A. Clark, correlates rainfall data from 35 gauges over the 243 square-mile Lee, Milam and Burleson County watershed with pictures made by A&M's radar systems.

Data from the three-year program co-sponsored by the Water Research Institute will be studied to devise a means of recording rainfall by radar.

Jake Canglose, department research engineer, and Clark have placed gauges with 32 volunteer observers in the area. Data is also gathered from two weather bureau stations and a geological survey stream gauge.

Folk making monthly reports range from a 13-year-old daughter of a veterinarian to a pioneer couple whose entire lives have been spent in the sandstone-studded clay hills.

Volunteer observers were screened through county judges and sheriff departments, and several were located through Canglose's and Clark's visits at stores and homes.

At Tanglewood, a chat at Phillip's general store "discovered" the S. E. Lynns, area residents since 1878. Shirley E. Lynn, 88-year-old retired farmer, has turned Lee County soil for a living since 1907.

His wife, Hallie, writes for Rockdale and Giddings newspapers while she isn't canning homegrown peas, and sweet potatoes or fishing. The energetic Mrs. Lynn is Tanglewood's correspondent and kept rainfall records 10 years before A&M radar meteorologists installed recording and Clear-Vu gauges outside her front gate.

The reporter finds changing drum charts of the clock-operated gauge no problem. "I'm up at 5 o'clock every morning," she remarked. Household work is done by noon, and daily, at 1 p.m., she fishes a lake nearby.

Relics of the past interest her husband. He removed an old colonial-pillared home on their farm.

"All the wood was hand-planed and mortise-jointed," he described. "I still have some of the oak beams. There isn't a worm hole in them."

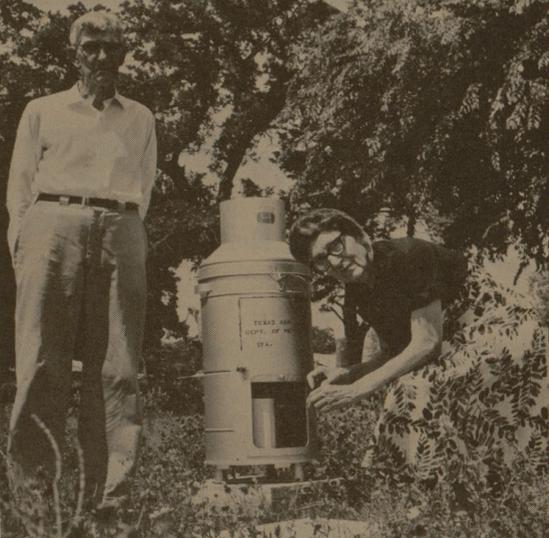
Crops and weather are conversation staples with East Yegua basin folk. Jake arranged to pick up some 21 pea pods to show his A&M horticulture friends.

Judith Parmelee took up rain charting at a Rockdale junior high science project. The eighth-grader skipped summer camp this year to take a speedreading course. She's an "A" student and daughter of rancher-veterinarian Dr. John J. Parmelee.

Canglose and Clark remain in contact with observers, to answer questions, iron out problems, maintain equipment and present each with a certificate. The framed sheet carries a background picture of 6 and 15-foot radar horns at Bizzell Hall.

The service often pays off both ways. C. R. Jackson, a farmer near Chrisman, voiced a corn problem.

"Coons are cleaning the patch out," he remarked. "If you know any hunters with good coon dogs, send them to see me."



... AND THE ELDEST Rain gauges in the East Yegua Creek watershed are operated by a cross section of Milam, Lee and Burleson County folk. Judy Parmelee, in picture at left, 13-year-old daughter of a rancher-veterinarian Dr. John J. Parmelee, charts precipitation at her home three miles south of Rockdale. Mr. and Mrs. Shirley E. Lynn record rainfall at Tanglewood, 10 miles north of Lexington. The retired farmer, 88, has worked the farm since 1907.

Synthetic Rocks From Raw Clay?

Texas A&M Researchers soon will be producing synthetic rocks from raw clay.

Their studies will be stepped up through the addition of a \$20,000 rotary kiln scheduled to go into operation in July at A&M's Research Annex.

Checkout trials are set next month, with full-scale research to roll in September.

The research, explains Dr. William Ledbetter, is in cooperation with the Texas Highway Department and U. S. Bureau of Public Roads. Now in its second year, the research is expected to draw \$350,000 support by the end of the fifth year, Ledbetter said.

Other researchers for the Texas Transportation Institute are Research Engineer Bob M. Gallaway, bituminous materials, and Dr. W. M. (Mike) Moore, base materials.

Research Assistant Jim Houston supervised design and construction of the kiln.

The kiln is being built with funds from the Featherlite Corporation of Austin, Gifford-Hill of Dallas, A. P. Greene of Houston, and Texas A&M.

"The kiln is superior to any other research kiln in the country," Ledbetter said. "It has more controls in addition to its larger size." It is 25 feet long and has an outside diameter of three feet. It tilts for variation in angles and rotation speeds... these angles determine how fast material goes through it. The kiln can raise temperatures to 3,000 degrees.

"In essence, the kiln transforms clay into man-made rocks," Ledbetter continued. "You can't cut the aggregate with a knife. And with the proper type clay, you can produce aggregate which weighs about half as much as nature's rock, but is just as strong."

Ledbetter noted aggregate is used for roadway base and in concrete pavement.

"In my research, I'm trying to correlate fundamental aggregate properties with behavior and performance of concrete structures made with these materials," he pointed out. I am interested in the quality that can be obtained... the full range of variables. It will be industry's problem to probe the economics of aggregate production."

Ledbetter expanded about research goals. "One in 1,000 clays makes lightweight aggregate," he said. "Trace elements cause the clay to bloat. These elements cause thousands of bubbles in the clay, and the clay becomes a poor but strong form of glass."

"We will research many grades of clay. If lightweight is not needed, I think we will find innumerable sources for suitable synthetic aggregate."

Although economics are not a primary goal of aggregate studies, they are an end result.

"Savings in weight result in less expensive structures," Ledbetter commented. "With this aggregate, you can use up to one third less concrete. This offsets higher cost of synthetic aggregate."

Along the coast and eastern border of Texas, suitable sources of natural rock are almost non-existent, Ledbetter said. Natural gravel used in construction in Houston often comes from as far as New Braunfels.

"The Texas Highway Department is interested in this research because of the hauling distance for road base materials," Ledbetter explained. "If synthetic aggregate could be economically produced on the job, long-distance hauling costs could be tremendously reduced."

Wiley To Join Staff

An expert in special education, Dr. Edward J. Wiley will join the Department of Education and Psychology at Texas A&M July 16.

The University of Oklahoma-trained professor comes to A&M from Wichita, Kansas, and directorship of a Special Education Service and Resource Center. He recently obtained funds for the \$850,000 center under Title III arrangement.

"Dr. Wiley's work in the department will be in curriculum and instruction," announced Dr. Paul Hensarling, education and psychology head. "We welcome him especially because one of the new areas of instruction we expect to develop within the next few years in special education. Dr. Wiley will be able to assist in preparation for this eventuality."

The former business and social worker will replace Dr. Roger Harrell, who joins the U.S. Office of Education on a year's leave of absence.

Wiley acquired master and doctor of education degrees at Oklahoma in 1957 and 1964, and background in school administration and secondary and elementary education. His business administration BA was taken at Central State College of Oklahoma City in 1954. Special interests include special education and working with underprivileged children.

As director of special education for Wichita public schools, he supervised 70 teachers.

The new A&M assistant professor taught emotionally disturbed children at Central State Hospital in Norman and was super-

intendent of schools at Belton, Kansas, and a district administrator at Wichita before it was absorbed into the larger system.

Olson Named TTI Project Director

Dr. Robert M. Olson, assistant research engineer for the Texas Transportation Institute at Texas A&M, has been named co-director of TTI's highway sign research project.

Olson received his doctorate in civil engineering at A&M in 1964. He has a master of science degree from Rice and a bachelor's science in civil engineering from the University of Texas.

Neilon J. Rowan of TTI's highway design and traffic engineering department has directed the project for almost a year.

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THE GRADUATE COLLEGE Final Examination for the Doctoral Degree Name: Ansari, Mohammed Nurul All Degree: Doctor of Philosophy in Biochemistry and Nutrition. Dissertation: Chemical Characterization and Biosynthesis of the Gossypol Related Pigments of the Cotton Plant. Time: June 30, 1966, at 3:00 p.m. Place: Room 214, Herman Heep Building. Wayne C. Hall Dean of Graduate Studies 3251f

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