

FOR DATA ON IRRIGATION

Professor Builds Electrical Device

An A&M agronomy professor has assembled an electrical device which promises to provide more accurate information on when cotton should be irrigated.

The gadget, described in a technical paper as 'A Thermoelectric Method for Determining the Rate of Water Movement in Plants,' is an arrangement of wires, batteries, and screws which somehow does just that—measures the rate of sap flow in the plant stem.

The thermoelectric system is the handiwork of Dr. Morris Bloodworth, professor of soil physics at A&M. He says a reading from the instrument, in measuring stem water flow, actually samples climate and soil water availability.

There are already a number of instruments in use to determine if a cotton field needs moisture. But they merely sample one aspect of a plant's environment.

There is the tensionmeter, which

measures water holding force of soil particles. Another method is electrical resistance units that indicate soil moisture indirectly by measuring electrical resistance of a porous cell buried in the soil within the root zone.

A third system is the neutron moisture meter which uses radioactive materials. Metal tubes sunk into the ground allow a neutron probe and counting device to measure soil moisture. Finally, there

is the standard gravimetric, or soil sampling method which indicates the amount of water in the soil but not its availability for plant use.

The four instruments already in use measure soil conditions only, when relative humidity, transpiration, wind and other factors also should be considered. Bloodworth says this overall picture is the purpose of this thermoelectric instrument.

The thermoelectric method consists first of brief local application of moderate heat to the plant stem. By using a thermistor (an electrical-type resistor which varies with temperature) in external contact with the stem 3/4 inch above the heat point, the time required for transfer of the warmed water up the stem is measured.

Rate of fluid movement in the stem can then be determined from the time.

Children's Art Exhibit
 Displays in the main hallway of the Memorial Student Center are being used this week to display the work of foreign children.

A&M Helps With Pakistan Program

An Asian country with only "two" architects is training with the assistance of A&M program sponsored by the United States government.

The architectural program is a part of the East Pakistan University of Engineering and Technology, a new institution at Dacca. Professor Richard Vrooman, who completed a year of post graduate study in England and designed structures in North Africa before going to East Pakistan.

Seven Pakistani students of regional and city planning are expected to come to the United States this fall for studies at several universities. Three will be students at A&M.

Researchers Begin Another Phase Of Caribbean Study

Another phase in a study of the Caribbean Sea by A&M researchers begins this weekend. Goal of the research is to map the ocean bottom and learn more about sediment and natural processes affecting the bottom.

Dr. Louis S. Kornicker, an associate professor whose specialty is geological oceanography, and Milton P. Looney, a research technician, are scheduled to fly south Friday.

At Puerto Barrios on the Caribbean coast of Guatemala they will board the Research Vessel Spencer F. Baird of the Scripps Institution of Oceanography. The vessel will sail Sunday to begin a four-week cruise in the area eastward to Swan Island.

Dr. Kornicker, who returned Sunday after presenting two papers at an international symposium in Naples, Italy, already has taken samples from the bottom of the Caribbean off the Honduran and Nicaraguan coasts.

A&M researchers are in the final phase of a study of the Campeche area in the Gulf of Mexico off the Mexican coast. The scientists will be sampling the bottom at depths of more than 16,000 feet.

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