

Faulkner Receives USCID Scholarship

William Brock Faulkner, a senior agricultural engineering student at Texas A&M University, has received the 2003 USCID/Summers Engineering



Joe Burns, Brock Faulkner and Joe McGahan.

Scholarship. The \$1,000 scholarship was presented to Faulkner by President **Joseph I. Burns** during the recent USCID Conference in Scottsdale.

USCID Member **Guy Fipps** is Faulkner's academic advisor.

The USCID/Summers Engineering Scholarship Fund was established in 1989 with a donation by Life Member **Joseph B. Summers**. Many USCID Members have contributed to the fund since its inception. The scholarship is awarded annually to an undergraduate university student involved in irrigation and water resources.

Faulkner, whose long-range plans include working and teaching abroad, will use the scholarship to help fund a research effort to design a wind tunnel for the Sprinkler Testing Laboratory at the Irrigation Technology Center in San Antonio, Texas. Faulkner provided the following details of his program.

Purpose

To design a wind tunnel for integration into the plans for the Sprinkler Testing Laboratory at the Irrigation Technology Center in San Antonio, Texas.

Background

In an effort to better manage water resources, the Board of Regents of

Texas A&M University has approved the establishment of the Irrigation Technology Center in San Antonio, Texas. The vision of the ITC is to "establish a world class, state of the art facility for education, testing, and applied research, [in order] to promote efficient irrigation, water conservation, profitable agricultural production and quality urban landscapes." The plans for the new ITC facility include a sprinkler testing laboratory, where sprinklers can be tested and evaluated for several factors, including distribution uniformity, radius of throw and application rates.

Currently, there are no sprinkler testing laboratories in the U.S. that are equipped to test the functionality of sprinklers in windy conditions. Variations in distribution uniformity and application caused by wind are important to understand in order to effectively conserve water while maintaining profitable agriculture and aesthetic landscapes. Without the use of a wind tunnel testing facility, it will be impossible to accurately predict the effects of wind on sprinkler performance.

Process

During this investigation, I will research the requirements of wind tunnel construction, as they would apply to irrigation sprinkler testing. I will then design a wind tunnel to be integrated into the plans for the Irrigation Technology Center in San Antonio, Texas. I will consult personnel at existing sprinkler testing laboratories to find out what their primary requirements for sprinkler testing are, and I remain in contact with the individuals who are responsible for the design of the ITC to promote the idea of wind tunnel testing for irrigation sprinklers.

Application

Distribution variation data gathered at the Irrigation Technology Center sprinkler laboratory wind tunnel could be used to improve both agricultural and urban irrigation. The benefits of this project will be far reaching, improving the design and implementation of agricultural and landscape irrigation systems to further conserve our precious water resources while providing an avenue for profitable agriculture and quality landscaping.□