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## Application of Micrometeorological Technology to Determine Environmental Stress Affecting Peanut Growth, Yield and Quality

Principal Investigators: John P. Beasley, Jr., Monique Leclerc, Alejandro Zermeno, Anandakumar Karipot, and Diane Rowland

The investigators listed above were to investigate the affects of microclimatic factors on peanut growth, yield and quality. To achieve this objective, the plan was to use certain micrometeorological technologies to monitor the microclimate, specifically nocturnal respiration, of specific areas of a peanut field at the University of Georgia's Southwest Georgia Research and Education Center near Plains.

The project was targeted to help supplement the salary of Dr. Alejandro Zermeno, a visiting scientist from Mexico, who has specific expertise in the areas of atmospheric physics, crop engineering, and crop management. Dr. Zermeno came to the University of Georgia on a sabbatical from his university in Mexico. The original source of funding to support Dr. Zermeno and his contributions to this project was a grant from the National Peanut Board. Dr. Zermeno arrived in July of 2002 and was expected to be available for a two-year sabbatical. Unfortunately, Dr. Zermeno was called back to Mexico in July 2003 to resume teaching duties at his university.

The remainder of the team involved in this project was not able to complete the experiment and data collection that was planned. Drs. Beasley and Rowland conducted some experiments peripheral to the planned experiment at Plains. In the mean time, we have received a budget amendment of the original proposal so that Drs. Leclerc, Karipot, Rowland, and Beasley can continue with some of the original objectives at the beginning of the 2004 crop year. We requested the budget be amended for travel, labor, and supplies to initiate some of the micrometeorological measurements. We will use the remainder of the extended project to meet the ultimate objective of the study, which is: determine the onset of physiological stress on peanuts using nocturnal respiration rate measurements.