

# Economics Seminar, Indian Statistical Institute, New Delhi

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TITLE: Assessing the Linkage Between Dairy Production Efficiency and Climatic Conditions: A Case Study of Florida

DAY AND DATE: 11:30 AM, Friday, 14th January, 2011

VENUE: Seminar Room 2, ISI Delhi

## ABSTRACT

Climate change and food security have become critical issues in the agricultural policy agenda. This paper econometrically examines the impact of climatic conditions on milk production and dairy farm efficiency. Stochastic frontier analysis is used to measure technical efficiency and technological progress for an unbalanced panel of Florida dairy producers that includes 77 farms from 1995 to 2008. Climatic conditions are incorporated in two ways: 1) using dummy for drought conditions; and 2) using an index for heat stress. Four alternative model specifications are evaluated. The results reveal that all climatic variables have a significant negative effect on milk production. Consequently, the rate of technological change estimated from different models is moderate. Further analysis also establishes that the introduction of climatic factors in the stochastic production frontier soaks what otherwise could be attributed to inefficiency. Mean technical efficiency from the models is as high as 90.8%. Adaptation strategies are prescribed to moderate the sensitivity of milk production to heat stress events.