**Models for predicting water use and crop yields in Cuba**

*M.E. Ruiz*
Agrophysics Research Unit (GIAF), Universidad Agraria de la Habana, Havana, Cuba
mruiz@isch.edu.cm

The better comprehension of the processes in the soil water plant atmosphere systems and the develop of efficient numerical methods and computational facilities have make possible the arising of physically base simulation models for predicting water use and crop yields. Through then it is possible "what happens if" experiments with only the necessary fieldwork. It is shown here the results obtained by GIAF unit about the using of the simulation model SWAP adapted for potatoes and sugar cane in Cuba. In the first part the results obtained for one potato Varity and in a point irrigation experiment are shown. In addition a SWAP sugar-cane version was evaluated for different conditions by comparing simulated and actual yields for the period 1991-1996 in a sugar-cane farm under production located at the south of Havana-Matanzas plain. Three soil types and different sugar-cane varieties, ratoons and seeding dates were used in the input data. An interface between the mechanistic model SWAP and the Geographic Information System (GIS) ILWIS was used for producing spatially-distributed sugar-cane yield estimates at each field unit of a sugar-cane farm located in the Havana-Matanzas plain. Finally a discussion about the difficulties arising using the model are exposed.

**Friday III** (Talk)