

4th Annual Campbell Lecture *in Environmental Soil and Water Science*

The Department of Crop and Soil Sciences at Washington State University presents:

Dr. John M. Baker

Research
Leader,
USDA
Agricultural
Research
Service



Biometeorology and Biofuels

Monday, October 23, 2006, 4:10 p.m.
Center for Undergraduate Education
(CUE) 203

A reception for Dr. Baker will begin
at 3:45 p.m., in the CUE Atrium.

The Campbell Lecture was created to help further understanding of environmental soil science. It is named for Gaylon Campbell, who spent nearly 30 years as a professor of environmental biophysics and soil physics in WSU's crop and soil sciences department. He retired from WSU in 1998 to become vice president of engineering at Decagon Devices, a local manufacturer of biophysical research instrumentation. The lecture was created through gifts from Campbell Scientific, Inc., and Decagon Devices, Inc.

The Campbell Lecture is free and open to the public.

There is a growing interest in the production of ethanol from plant materials, driven by concerns about global climate change and a finite supply of fossil fuels. The U.S. Department of Energy has set a target of supplanting 30% of petroleum consumption with biofuels, and a feasibility study has concluded that this is an achievable target. Their analysis assumes that a substantial portion of this will come from the processing of crop residues. Can this be done sustainably? Viewed from a biometeorological standpoint, what changes in cropping practice might be effective in meeting this goal?

Biography: Dr. John M. Baker is research leader at the USDA Agricultural Research Service, Soil and Water Management Unit in St. Paul, Minnesota. Baker's research is focused on the impact of management practices on the cycling of carbon and other greenhouse gases in agricultural systems, and development of farming practices to improve water quality. This involves a variety of field projects, such as field-scale measurement of gas exchange in paired systems, where one field is farmed conventionally while the other is subjected to management practices that are expected to alter greenhouse gas exchange, as well as laboratory research. A particular area of emphasis is the transport of solutes during spring snowmelt, a key period in the hydrologic cycle of the Upper Midwest.

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