The March–April 2015 issue of the Journal of Environmental Quality (JEQ) includes a special section on “Improving Nitrogen Use Efficiency in Crop and Livestock Production Systems.” CSA News recently asked one of the guest editors for this section, Eric A. Davidson, University of Maryland Center for Environmental Science, Appalachian Laboratory, Frostburg, MD, to provide some details about the special section below:

CSA News: How did this special section come about?

Davidson: We know a lot about how to improve nutrient management in agriculture, and we have some very powerful technologies at our disposal to do so, and yet, regrettably, nutrient pollution of groundwater, rivers and lakes, and coastal zones is still increasing downstream of many agricultural regions. Likewise, emissions of ammonia (NH$_3$) and nitrous oxide (N$_2$O) are also increasing in many regions. If we have the technology and know-how, then there must be some other impediments, such as socio-economic factors, that are standing in the way of progress. In August 2013, about 160 agronomists, scientists, extension agents, crop advisers, economists, farmers, representatives of regulatory agencies and non-governmental organizations, and other agricultural experts gathered at a conference in Kansas City, MO to discuss these issues.

CSA News: Why is this a timely or important topic?

Davidson: Humankind faces a vexing problem of nourishing about 9.5 billion people by 2050 while still maintaining the integrity of the soil and water resources and the global climate system that food production requires...