Sustainable Agriculture as an Objective for the Future

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PANEL TOPIC:
Sustainable Cropping Systems: Influences on Economic, Environmental, and Sociological Aspects of Agriculture

During this First International Crop Science Congress, we have witnessed a global elite of crop scientists discussing the issues of moment in their respective disciplines. This array of topics included biodiversity conservation, effects of biotechnology and breeding on genetic erosion, crop response to reduced tillage practices, biotic and abiotic constraints to cropping, and alternative nutrient and disease management, all subjects reflective of a preoccupation with the long-term viability of present cropping systems. Concerns of the type that today we might group under the banner of sustainability are not particularly recent, having been expressed by Europeans and North Americans in the 1940s. Public concern, particularly in the northern hemisphere, about the environmental impact of agriculture has precipitated research over the past 30 yr has demonstrated that reason to be alarmed about the effect of systems on the planet’s natural resources, including soil, water, and air, as well as on social consequences such as rural displacement, urban sprawl, social equity, and the very survival of the human species. An equivalent concern of scientists working in developing countries has been that the adoption of certain features of intensive cropping systems may displace local practices and knowledge that by their history and adaptation are inherently and demonstrably sustainable.