

# Workshop Summary

**Monday, December 8, 2008, 1:00pm-4:00pm**

## ***Drivers of Integrated Agricultural Systems***

### Workshop Organizers:

***Gretchen F. Sassenrath***, Research Plant Physiologist, USDA-ARS Application and Production Technology Research Unit

***Dwight Fisher***, Rangeland Scientist, USDA-ARS J. Phillip Campbell, Sr. Natural Resource Conservation Center

### Workshop Presenters:

***David W. Archer***, Research Agricultural Scientist, USDA-ARS Northern Great Plains Research Laboratory

***Dinku M. Endale***, Agricultural Engineer, USDA-ARS J. Phillip Campbell, Sr. Natural Resource Conservation Center

***Dwight S. Fisher***, Rangeland Scientist, USDA-ARS J. Phillip Campbell, Sr. Natural Resource Conservation Center

***John M. Halloran***, Agricultural Economist, USDA-ARS New England Plant, Soil and Water Research Laboratory

***Jon D. Hanson***, Supervisory Rangeland Scientist, USDA-ARS Northern Great Plains Research Laboratory

***John R. Hendrickson***, Research Rangeland Management Specialist, USDA-ARS Northern Great Plains Research Laboratory

***D. Wayne Reeves***, Supervisory Research Agronomist, USDA-ARS J. Phillip Campbell, Sr. Natural Resource Conservation Center

***Gretchen F. Sassenrath***, Research Plant Physiologist, USDA-ARS Application and Production Technology Research Unit

***Harry H. Schomberg***, Ecologist, USDA-ARS J. Phillip Campbell, Sr. Natural Resource Conservation Center

In this workshop, we will present an examination of drivers of agricultural production systems and their role in shaping production systems. A detailed examination of agricultural systems from two regions, the Southeast and Northeast, will be used as examples of how drivers interact to develop production systems, and how this information can be used to address future challenges of economic and environmental sustainability. By understanding the forces internal and external to production agriculture, we can expand our definition of agriculture and enhance ecosystem services that agriculture can provide beyond traditional production. Critical issues that must be addressed by producers, researchers, and policy makers will be explored.

### Agenda Topics:

1. Introduction to Drivers of Agricultural Systems
2. Promoting Agricultural System Sustainability in the Southeastern Piedmont
3. Towards an Understanding of the Interactions Between Drivers of Agricultural Production and their Potential to Direct the Development of Sustainable Systems
4. Critical Issues Impacting the Future Sustainability of Agricultural Systems

### Discussion:

Agricultural systems develop in response to internal and external influences that shape the production system. The Integrated Agricultural Systems Workgroup brings together scientists and producers to share ideas, concepts, and philosophies of agricultural production systems. The goal of the group is to organize common principles, criteria, and indicators that exist across physiographic regions of the US to provide insight into the management of agricultural systems. The IAS Workgroup has examined agricultural drivers and compiled them into four groups: social/political, economic, environmental and technological. Through an examination of production systems, their drivers and the unique characteristics of the systems, we gain insights into the basis for producers' decision making and the underlying principles of production. By identifying the responsiveness of current production systems to forces that are shaping agricultural production, we can determine successful strategies that can be used to address future challenges to agriculture. In exploring the development of sustainable agricultural

systems, it is important to recognize the drivers impacting the system, and how these forces can be used to shape sustainable production systems. This information can be used by producers, scientists and policy makers to direct agricultural production, research and policy towards sustainability.