

2019 Current Issue

Agriculture & the Environment:

Knowledge and Technology to Feed the World Key Topics

Key Topics

- How agroecosystems function and the services they provide.
- The importance of soil health as the foundation of a healthy ecosystem.
- Understanding sustainable agriculture on large and small farm operations, as well as the indicators of sustainable farming.
- How sustainable and best management farming practices enhance and protect soil health, water quality and quantity, and biodiversity; as well as manage insect pests, disease, and weeds.
- The differences of local, regional, and national food systems that are vital to grow food for an ever-increasing world population; and the importance of each food system.
- New technologies that help provide more efficient agriculture production.

Learning Objectives

- Understand how agroecology applies ecological principles to agricultural systems by considering productivity, ecosystem impacts and social responsibility.
- Understanding the indicators of soil health, including physical, chemical and biological properties.
- Define Sustainable Agriculture
- Understand the importance of moving toward sustainable farming systems to conserve natural resources, reduce erosion and protect water quality and quantity.
- Understand farm management practices to build soil organic matter, such as: crop rotations, cover crops, conservation tillage, and grazing management techniques to improve soil health.
- Describe the economic, social, and environmental benefits of sustainable agriculture to local communities, as well as to regional and global food systems.
- Understand the role of new technology: agricultural biotechnology and precision agriculture (zone management, variable rate technology, farm GIS, computer controllers, Lidar technology, crops sensors); autonomous tractors, using UAV (drones, GIS, etc.) to increase farm efficiency for food production.