



## ***2019 Current Events Station (Agriculture and the Environment: Knowledge and Technology to Feed the World) Resource Materials***

### **Current Events Learning Goals:**

- **Sustainable Agriculture:** Understanding sustainable agriculture on large and small farm operations, as well as the indicators of sustainable farming.
  - a. Define sustainable agriculture, including comparing and contrasting sustainable practices on large and small farm operations

USDA: Sustainable Agriculture: Definitions & Terms

<https://www.nal.usda.gov/afsic/sustainable-agriculture-definitions-and-terms#toc2>

UC Davis: What is Sustainable Agriculture?

<http://asi.ucdavis.edu/programs/sarep/about/what-is-sustainable-agriculture>

- **Best Management Practices and Conservation:** Understanding how sustainable and best management farming practices enhance and protect soil health, water quality and quantity, and biodiversity.
  - a. Understand the importance of moving towards sustainable farming systems to conserve natural resources, reduce erosion, and protect water quality and quantity; as well as look at pollution.
  - b. Understand farm management practices to build soil organic matter, such as: composting, crop rotations, cover crops, conservation tillage, and management intensive grazing systems to improve soil health.
  - c. Understand best management practices that improve water quality and reduce water use such as conservation tillage, cover crops, plant selection, precision agriculture, water re-use, and sub-surface drip irrigation.
  - d. Knowledge of the role pollinators play in farming and ways to attract them

Minnesota Department of Agriculture Best Management Practices

<https://www.mda.state.mn.us/pesticide-fertilizer/best-management-practices-bmps>

Conservation Agriculture: What Is It & Why Is It Important for Future Sustainable Food Production?

[https://www.researchgate.net/publication/305397361\\_Conservation\\_agriculture\\_what\\_is\\_it\\_and\\_why\\_is\\_it\\_important\\_for\\_future\\_sustainable\\_food\\_production](https://www.researchgate.net/publication/305397361_Conservation_agriculture_what_is_it_and_why_is_it_important_for_future_sustainable_food_production)

Pollinators-Minnesota Department of Agriculture

<https://www.mda.state.mn.us/sites/default/files/inline-files/pollinatorsagland.pdf>

- **Food Systems and World Population:** The difference of local, regional, and national foods systems that are vital to grow food for an ever-increasing world population; and the importance of each food system.
  - a. Describe the economic, social, and environmental benefits of sustainable agriculture to local communities, as well as to regional and global food systems.

Agricultural Statistics for Minnesota

<https://minnesota.agclassroom.org/educator/materials/profile.pdf>

National Geographic: Feed the World

<https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/>

Growing today for Tomorrow-Ag in the Classroom. Video from BASF.

<https://minnesota.agclassroom.org//matrix/resources.cfm?rid=411>

University of Minnesota Institute on the Environment. Environmental Reports—Food Matters

<http://www.environmentreports.com/foodmatters/#section8>

Responsible Acre from Winfield

<http://www.responsibleacre.com/>

- **New Technologies:** New technologies that help provide more efficient agriculture production.
  - a. Understand the role of new technology: agricultural biotechnology; precision agriculture; using UAV (drones, GIS, etc.) to increase farm efficiency for food production.
  - b. Understand the risks and benefits of agricultural biotechnology

Agronomy Technical Note 3—Precision Nutrient Management Planning

[https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_021594.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_021594.pdf)

MN NRCS Profiles of Soil Health

<https://www.nrcs.usda.gov/wps/portal/nrcs/mn/soils/health/stelprdb1246017/>

Forbes Magazine: Take a Look at How Technology Makes Smart and Sustainable Farming

<https://www.forbes.com/sites/jenniferhicks/2016/12/31/take-a-look-at-how-technology-makes-smart-and-sustainable-farming/#5d2dc71c3deb>

Precision Agriculture and Sustainability

<https://link.springer.com/content/pdf/10.1023%2FB%3APRAG.0000040806.39604.aa.pdf>

