2019 ND Envirothon Current Issue Resources:

Plant physiology & farmer perspective on being sustainable videos:

Dr. Fred Below, University of Illinois

http://cropphysiology.cropsci.illinois.edu/research/seven_wonders.html

Sustainability Point of View (No Till perspective): Duane Beck, Dakota Lakes Research Farm

http://dakotalakes.com/

Soil Health Indicator Sheet: Click to view attachment

Soil Health Videos:

https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/soils/health/?cid=stelprdb1048858

Soil Health : NRCS Soil Scientists (like Perry Sullivan & Kyle Thomson) contact your local Field Office
https://offices.sc.egov.usda.gov/locator/app?agency=nrcs

NDSU Soil Health link:

https://www.ndsu.edu/soilhealth/

Use your ND Envirothon Soils Resources reference list for soil health information

Use your local USDA/Natural Resources Conservation Service & Soil Conservation District Office

ND Agriculture Statistics information:

https://www.nass.usda.gov/Statistics_by_State/North_Dakota/index.php

https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=NORTH DAKOTA

New technology*: ND Focus is Precision Agriculture*

- utilize your local Agronomists and Cooperatives for hands on learning of this technology.
  - Computer controllers, variable rate technology, farm GIS, zone management, Lidar technology, crop sensors, agricultural biotechnology, autonomous tractors
- Agtegra Precision Ag Innovation Center (opportunity for a tour)
  - https://www.innovationnow.com/
  - **Brent Wiesenburger**
    Director of Ag Technology Services

    AGTEGRA COOPERATIVE
  - 908 Lamont St S. / Aberdeen / SD / 57401
  - Office: 605-725-8329 / Cell: 605-216-5179

- Institutions with Precision Ag Programs
  - NDSU
  - Lake Region State College
  - Bismarck State College
  - SDSU

Agroecology and Agroecosystem Definitions:

Definition of *agroecology is* an ecological approach to agriculture that views agricultural areas as ecosystems and is concerned with the ecological impact of agricultural practices

---

Definition of *agroecosystem* : Comprised of three sections, this covers the nutrient dynamics and productivity of global agroecosystems. It focuses on the major aspects that make up agroecosystems, such as soils, climate, crops, nutrient dynamics, and productivity. It introduces agroecosystems and describes global soil types that support vast crop belts, then deals with the principles that drive crop growth, nutrient dynamics and ecosystematic functions within any agroecosystem. It also details the influence of agronomic practices and factors such as soil microbes, organic matter, crop genetic nature, irrigation, weeds, and cropping systems that affect productivity of agroecosystems.

Definition of *ecosystem*: the organisms and environment of an agricultural area is an ecosystem