

# **Envirothon 2019 Special Topic**

## **Agriculture and the Environment : Knowledge & Technology to Feed the World**

There are many articles that estimate the population of the Earth to be approximately 9 billion by the year 2050. One of the primary concerns for the agricultural industry is how will farmers be able to grow enough food to feed this growing population, while also protecting natural resources such as soil, water, air, wildlife, and forestry resources.

Students will learn the concepts of how agriculture and all natural resource areas are interrelated, and how the use of new technologies are key to increase food production. Key topics will include:

- Understand the importance of moving toward sustainable farming systems to conserve natural resources, mitigate climate change, reduce erosion and protect water quality and quantity, and promote pollination;
  - Comprehension of farming practices that build soil organic matter such as composting, crop rotations, cover crops, conservation tillage, and management intensive grazing systems to improve soil health;
- Understand integrated pest management and biological pest control techniques used to prevent insect pest, disease, and weed problems;
- Understand the role of new technology: agricultural biotechnology; precision agriculture; and using UAV (drones, GIS, etc.) to increase farm efficiency for food production.