There's a Lot Growing on at Auburn

By: Jacob Koch, Seth Zimmerman, and Faith Santana

Last year, thanks to grants and sponsorships from the Nebraska Environmental Trust and Nemaha County Natural Resources District, Auburn High School built a greenhouse. Inside the greenhouse are automatic flood tables that fill with water to provide the roots with water directly, rather than overhead watering. The watering system in the greenhouse is run automatically, using a timed cycle as well as an Electronic Leaf. The Electronic Leaf acts like an actual leaf, it absorbs water while the watering system is running, and when it absorbs enough, it shuts off the water. When water evaporates and the leaves begin to lose moisture, it turns the water back on. Both of these systems help to conserve water.

Outside the greenhouse and around the school, agriculture students maintain a landscape of plants native to Nebraska. Students plant, water, weed, and apply new mulch to the landscapes. This has increased school pride because it allows students to take part in maintaining an area around the school that is seen by everyone. This landscape can also be watered with the water catch system on the greenhouse to help conserve water.

Over the summer, Auburn also got Composting Towers to go in the greenhouse, thanks to a grant from tSustainable Agriculture Research and Education (SARE). These towers can grow a wide variety of plants as it uses soil and composting to grow plants, rather than soil alternates. These towers have taught students how other means of fertilization such as worms can be used to provide nutrients for plants. They also show that you can sustain plant life in less space than a conventional garden setup. It has also been able to allow students to grow responsibility and understand the importance of nutritions for plants. The Composting Towers are currently being managed by Jacob Koch, a senior at Auburn, to conduct an experiment. In his research, he is determining the best compost type and worm to maximize plant production. Items grown in these towers include different types of herbs, as well as many different species of lettuce. Jacob has also been able to teach 7th grade science students about the different alternatives to standard farming. In the future, the chapter plans on continuing to use the towers as a teaching tool for the younger students. Along with being able to grow plants, these towers have allowed students to get the chance to raise worms and determine their importance in composting. It has also allowed the chapter to practice sustainable farming and learn how to feed a growing population on a shrinking space. The Composting Towers have been a great addition to the horticulture program in Auburn's FFA.

In the classroom, are one of three tower gardens that the ag program has acquired thanks to a grant from the National FFA Organization. The two other towers are located at the Auburn High School media center and Calvert Elementary School. A basin at the bottom of the tower is filled with water that has been enhanced with mineral and nutrient solutions and solutions to bring the

pH to neutral. A water pump carries the water to the top of the tower and gravity carries the water down the tower, water the roots of plants as it goes to the bottom and back into the basin. The plants are suspended in the towers by rockwool cubes in small baskets on the sides of the towers. The towers help students learn about alternative ways to grow plants using no soil and utilizing small amounts of space. They also teach students how important of a role minerals, nutrients, and pH play on how well plants can grow. We also teach the elementary students about plant growth and where their food comes from.

Currently, produce being grown in the chapter's greenhouse and tower gardens are being donated to families in need in the community. This has allowed for students to give back to the community while being able to grow and maintain plants and having an overall fun time. Auburn FFA plans on continuing to donate the produce that is being grown, as well as starting plants to be sold in a greenhouse sale in the spring. The chapter is also going to continue conducting research on plants in their different plant growing conditions.