

## **The Future of Corn**

### **Cactus IFT Bayer Plant Tour, January 30, 2020**

The Cactus Section IFT was fortunate to be hosted by Bayer, January 30, 2020 on a tour of their new 7-acre greenhouse located in Marana, AZ. Dr. Matt Lingard, Plant Cell Biologist, (Arizona State University), Bayer Site Manager, led us on a tour of their innovative, fully automated facility which is scheduled to begin seed production in March 2020.

The purpose of the “corn factory” is to grow genetically selected corn plants to produce seed that can yield sustainable crops in response to future global challenges. Dr. Lingard stated that corn has 20,000 genes and it can take 10-15 years to yield a viable new corn variety. The global challenge is the combination of an estimated world population increase by 2.2 billion, leading to a 50% increase in food need, coupled with a 20% decrease in arable land and a 17% increase in harvest losses due to climate change.

When Dr. Lingard was asked why Bayer chose Marana, AZ for its plant site, he responded with three reasons: 1) Arizona sun shine with less cloudy days and dry desert air that allows the sun rays to ‘come through’ 2) proximity to U of Arizona and Arizona State access to talent 3) location nearby of two large cities (Phoenix, Tucson).

The 7-acre greenhouse that broke ground in 2017, replaces the output of 200 acres of farmland. 90-95% of the water used in the facility is recycled using ultraviolet sterilization. This production facility employs 70 people and is estimated to have cost \$100 million in investment.

Bayer has worked to develop a partnership with the Marana community through open forum meetings sharing details of the construction, (which includes roof top shades to block the greenhouse lighting at night), and through investment in the region.

Special thanks to Stefanie Boe, Bayer Community Engagement/Site Enablement Lead, for arranging this tour and for offering future tours to the Cactus Section IFT.