

Press Release #5: April 11, 2023

Shaping the Future of Agriculture - Ag Tech Drives Sustainability on the Farm



“We believe that future innovation will be judged not by its ability to produce more, but to produce better,” (Bayer, 2023, <https://www.bayer.com/en/agriculture/sustainability-commitments>).

Mike Harrison, customer business advisor, Bayer U. S. - Crop Science, expressed his passion for agriculture sustainability and technology by sharing these facts.

- One U. S. farm feeds 166 people annually in the US and broad. When he was growing up that number was 150.
- The global population is predicted to increase by 2.2 BN by 2050.
- And the world’s farmers will have to grow about 70% more food than what is now produced with less ground and new tools. We have work to do- we must do more with less.

Mike grew up in Carroll County, Maryland, graduated from South Carroll High School, and participated in 4-H and FFA as a livestock judge, participating in national competitions. He majored in agronomy at University of Maryland, was in Alpha Gamma Rho, and after graduation worked for the University for 3 years as a research agronomist doing hybrid trials across the state. He worked for Southern States, and then landed with Monsanto, now Bayer. Mike now advises farmers in the Mid-Atlantic region on crop protection, digital ag software, seeds and traits, and new business models, including as a seed advisor on outcome-based pricing, and carbon sequestration. Mike leads on-farm research including field tests on many products suitable for the Mid Atlantic. On the side Mike is a farmer himself and a leader in many ag organizations. He is past president of the Maryland Agriculture Council.

<https://mdagcouncil.com/>

Sustainability includes reducing farming's carbon footprint, higher crop yields, and empowering farmers, including 100 M small farm shareholders around the globe. Ag tech is improving sustainability of farming and is being rapidly adopted across agriculture. Artificial intelligence and mathematical algorithms analyze data used to guide the farming operation. An auto-steer tractor is guided using GPS (global positioning systems), that tells the tractor and the planter what to do. That includes dropping seeds in specific population rates, and running two fertilizers so the right fertilizer is on the right seed. The system uses a GPS map of the farm field so that the planting is customized to the field soil conditions. The entire tractor-planter connection runs and is controlled by GPS.

Drones, also controlled by GPS, are now being used to spray fungicides up to 8 gallons of product at a rate of 30 acres per hour. Also, a drone can carry up to 1 bushel of rye seed and plant this cover crop. Climate Field View provides the farmer with a spatial map of his or her farm, so that the machines will plant to improve efficiency and optimize fertilizer and crop protection products. This system and others have been proven to increase yields while using less inputs.

Coming in about 2025 is a new Smart Corn – to grow more with less. The future includes this new short corn that will yield more, while requiring more efficient use of fungicides and fertilizer. It is thought that short corn will change the industry.

Students learned about new ag technologies and gleaned a lot of advice from this young agriculture professional about business, integrity and commitment. He emphasized that relationships are key to success in agriculture because the ag community is relatively small so never burn a bridge!

Howard County Ag Science Academy and FFA students are growing through these expert seminars, by getting a first-hand look at the many careers in food, agriculture, environment, and natural resources! This event is a continuing seminar series for students in collaboration with the **Howard County Farm Bureau (HCFB)**. For more information contact Kathleen Wojcik, educator, Kathleen_Wojcik@hcpss.org; or Barb Glenn, HCFB, glennbarb6@gmail.com.