There’s plenty of buzz around drones and sensors as a result of the recent ag tech boom. With many companies and products on the market, making decisions about what to adopt can be difficult. At the Noble Research Institute, we’re working to incorporate drones and sensors into our research and operations and are beginning to realize the potential of some of these devices.

DEVICES USED AT NOBLE

One device we’ve been pleased with is Sentera’s Standard NDVI Single Sensor. NDVI stands for normalized difference vegetation index; essentially this is a measure of plant health. This sensor is small in size and...
WHAT TO CONSIDER BEFORE BUYING A DRONE

I imagine a number of you are curious whether it is worth it to purchase a drone to help your operation. While there is no black and white answer, here are a few things to think about.

1. Consider the purpose of the drone you are buying and whether or not you can definitively say it will increase your profitability or make certain tasks easier.
2. If buying a drone with a sensor, be sure to check into the cost of gathering and storing data in different programs (e.g., AgVault or PrecisionMapper). If flying regularly, this cost can accumulate quickly.
3. Remember this is a rapidly changing industry. In the very near future, there will likely be better options to accomplish more with these technologies.
4. Be certain to operate these devices legally. Anyone who flies a drone for business purposes must be certified with the Federal Aviation Administration (FAA) as a remote pilot and must comply with restrictions on when, where and how they operate the drone.

relatively inexpensive compared to other sensors used for similar measurements. Sentera also offers a program called AgVault to quickly and seamlessly transfer data from the sensor into actionable form. We have not utilized the AgVault software much, but it seems like a useful tool to get information quickly.

We’ve been successful in using Sentera’s sensor to identify bare ground in pasture and range, monitor plant growth in alfalfa trials, and also identify areas of cotton root rot. However, all of this is done using multiple different types of software that have a difficult learning curve. With most of these new drone sensors, there are barriers in moving data from collection to useable output to actions that increase ROI. However, software like Sentera’s AgVault and Precisionhawks’ PrecisionMapper are showing rapid advancements that will break down these barriers.

Additional sensors we’re working with include the FLIR Thermal XT, Parrot Sequoia, Velodyne Lidar Puck and multiple standard color cameras. All of these sensors are useful for different applications, but similar to the Sentera Standard NDVI Single Sensor, many of them require technical expertise to interpret and turn data into actionable information. However, standard cameras can provide simple but valuable applications, such as checking fences or water structures, finding animals, or simply visually inspecting your fields. Overall though, the future of drone-based sensors in agriculture is promising as data can be integrated into precision agricultural equipment more easily with clear expectations for increased ROI.