



Utilizing Technology in Agricultural Applications

Cultures throughout history have embraced new methods and technologies to aid in their agricultural efforts. Despite agriculture being developed for thousands of years, there are continuous improvements taking place in the field. These new techniques become more evident as an increasing amount of automation technology is applied to agriculture.

Many of these novel techniques draw from proven results in other industries. These technologies typically reduce labor while improving both the quality and quantity of yields in agricultural applications. One such technology, the DEMA Engineering Company's Trident batch blending system, automatically blends all the nutrients and additives required to fertilize crops, while also incorporating cutting-edge technology to provide additional benefits.

As previously mentioned, the influx of new technologies becomes more and more apparent as additional sectors of agriculture are automated. Combining traditional hardware with "smart" features provides many benefits, such as the ability to record equipment usage rates, recommend maintenance, export data, and provide insights that help optimize the agricultural workflow.

Devices that support cost analysis efforts are becoming more and more prevalent as operations increasingly adopt lean practices to optimize resources. The Trident keeps a record of what formulas are mixed, and how often they are mixed. The system can export an Excel spreadsheet that contains a master of list of which formulas were used and what time they were used at. This is an excellent tool to analyze your grow schedules and have all your fertigation data in a single location. To further enhance the cost analysis capabilities of an operation, the Trident can be programmed with the cost of each nutrient or additive. The Trident then utilizes this costing information in combination with the data logs to determine the cost of each blended batch, which can help identify where money is being spent. The ability to log data also lends itself well to replicating previous grows. For example, if you have an exceptional yield that you would like to duplicate you can use the exported data to determine an optimal fertigation schedule for your crops.

Another feature that many farmers desire is the ability to manage aspects of their operation while away from the farm. The DEMA Trident addresses these concerns by providing a Bluetooth® based programming interface that works with any smart device. This allows farmers to develop their nutrient formulas wherever they are, while also giving them the ability to send the programming to another smart device. As growers update formulas offsite, the new formulas can be sent to someone at the farm to update the Trident system within a matter of minutes. This is also an excellent feature for operations that have found what works and want to easily duplicate their results across multiple locations.

As the capabilities of technology increase, it is necessary that the proper security measures are put in place to make sure that device remains protected from unauthorized tampering. The Pro-Access module provides an onboard password protected method of programming and operating the unit, and the DEMA Connect App also uses password protection when connecting to the device. This helps growers rest assured that no unauthorized changes occur to their formulas. Individual users can be assigned their own access numbers that provide them with varying levels of access. For example, newer employees could be given access to dispense various formulas but be restricted from modifying any of the calibration settings.

Whether you are looking to create a leaner business model, manage and reduce costs, increase the amount of work that can be done in a day, or are simply tired of hand mixing nutrients, the Trident batch blending system is a piece of technology that addresses many of the concerns faced by today's farmers.

Visit ag.demaeng.com for more great information!



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