

Senix ToughSonic Sensors Help Farmers Reduce Risk and Increase Profits

Senix ToughSonic non-contact ultrasonic sensors are used to measure and monitor crop height in order to optimize the right amount of fertilizer and water.

HINESBURG, VT, USA, July 27, 2020 /EINPresswire.com/ -- Farming can often be a business of high-risk, low profit margins, and lots of debt. Researchers are now experimenting with high-throughput automated plant phenotyping, a technology that reduces the risks and increases the profits of farming. Part of that technology is ToughSonic ultrasonic distance sensors from Senix Corporation.

The Biological Systems Engineering group at the University in the central U.S. used Senix ToughSonic sensors, along with other types of sensors, to determine whether automated non-contact measurements of crops early in the growing season would relate to end-of-season crop yields. In the 2015 growing season, tests were initially done on both soybean and wheat fields using Senix ToughSonic sensors to measure crop canopy height (how tall the plants were). Other sensors were used to measure the “Normalized Difference Vegetation Index”, temperature, reflectance and RGB color.

In summary, strong and significant correlations were observed between various types of non-contact sensor data taken early in the growing season and the eventual crop yields at the end of



Researchers moving the phenotyping cart through a young wheat field



The Senix ToughSonic 14 on the left, pointed down at the crop canopy along with other sensors

Ultrasonic Level and Distance Sensors

the season. According to research team member, "The Senix sensor works well for us and I found it robust and reliable for the plant height measurements in our applications." Similar research will continue for the next few years, expanding to include corn, sorghum and camelina.

The Senix sensors were ideal due to their rugged construction, high level of accuracy, resolution and repeatability, and the versatility and flexibility of being able to adjust the sensor parameters to tailor it to such a unique agricultural application was amazing.

Agricultural equipment manufacturers are now talking about using Senix ToughSonic sensors to measure crop canopy in real-time while rolling through the fields. "Precision agriculture" applies the right amount of fertilizer and water to small individual sections of a field, in some cases down to individual plants, based on real-time crop measurements. Senix is proud to be a part of this agricultural technology, reducing risks and increasing profits for farmers.

Results were published on web at:

<http://www.sciencedirect.com/science/article/pii/S0168169916302289>

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