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HOW IT WORKS

CROP SENSOR APP

THE FIELDSCOUT GREENINDEX+ APP CAPTURES AND PROCESSES IMAGES OF CORN LEAVES TO MONITOR FERTILITY AND TO PROVIDE NITROGEN RECOMMENDATIONS.

PROCESS

Once an image is taken, tapping on the reference discs and the leaf sample enables the app to precisely analyze the three key areas.

COLOR-CODE

Based on research by the University of Arkansas Department of Crop, Soil, and Environmental Sciences, a color reference board is held beneath the corn leaf to provide standards for photos taken in various lighting situations (for example, full sunshine, overcast skies, fluorescent bulbs). The pink board has green and yellow reference discs that provide contrasting colors needed by the app's image-processing routines.

READ

The app provides Dark Green Color Index (DGCI) results for each sample. "The DGCI result is calculated from the hue, saturation, and brightness in the key areas of the photo to quantify the visual greenness of the plant," says Chris Bertelsen of Spectrum Technologies, Inc., the app's developer.

CALCULATE

The app also calculates the SPAD equivalent for the DGCI result. SPAD readings are often used by chlorophyll meters to provide nitrogen recommendations. "The more chlorophyll and the thicker the leaf tissue, the higher the value," Bertelsen says.

RECOMMEND

"The data can be used to give pounds-per-acre nitrogen recommendations for 90% and 95% yield, based on the University of Arkansas research," Bertelsen says. The readings and recommendations are saved and geo-tagged, and they can be emailed for further analysis.

INSTALL

Read more about the app and download it directly to your iPhone, iPad, or iPod Touch at m.agriculture.com/apps/greenindex.

The FieldScout GreenIndex+ app helps refine corn nitrogen recommendations by measuring leaf chlorophyll through a color-coded reference card.

The greener the leaf, the more chlorophyll present, thus, the less nitrogen needed. The app uses a simple color chart to yield an N recommendation.

Once the chlorophyll is measured at a specific location in a field, it can be geo-tagged and emailed for reference later on.