ENVI® CROP SCIENCE

FOR PRECISION AGRICULTURE

UNLOCK THE VALUE IN YOUR IMAGERY

BENEFITS

Ingest any type of data from any sensor

Monitor crop health down to the individual plant level

Detect plant stress and target specific field locations for remediation

Monitor crop growth for harvest and yield predictions

Track changes over time and report results in a single image

Tight profit margins are nothing new to growers. Fertilizers and crop protection chemicals can easily eat up half of the seasonal expenses for an agribusiness. On the other side of the equation, crop losses due to disease and pests can take a big bite out of yield. With a large portion of budgets tied up in fixed costs, remote sensing applications provide a way to loosen the margin squeeze.

Imagery from satellites, fixed-wing aircraft, and Unmanned Aerial Vehicles (UAVs) is being heralded as the next frontier in precision agriculture. In order to realize the potential that imagery offers, advanced analysis tools like ENVI need to be used to extract actionable information. ENVI Crop Science now puts the information available from these scientifically proven approaches into the hands of anyone, regardless of their prior experience with remote sensing.

ENVI Crop Science analyzes spectral and spatial data to provide extensive crop health information. This industry-changing solution offers a window into the growth cycle to enable early stress and disease detection so interventions can be implemented before a crop sustains lasting damage.
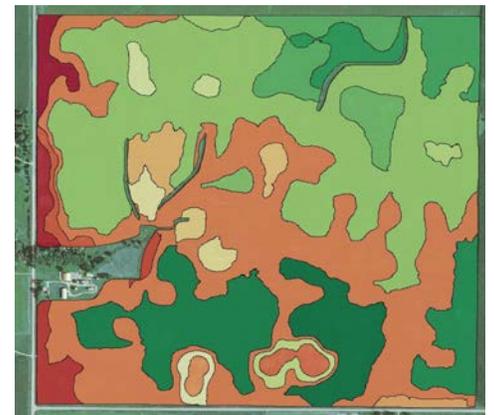

Management zones colorized by mean MSAVI2 values. Zones are displayed on top of high resolution orthoimagery obtained from the USGS.

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ENVI Crop Science works on both the desktop and cloud environments and enables automated analysis– putting actionable information into the hands of decision makers in the field.

Create maps and report-ready graphics from high-level views of fields, all the way down to individual plant health information.

Real-time preview function offers the ability to adjust parameters prior to running the analysis.
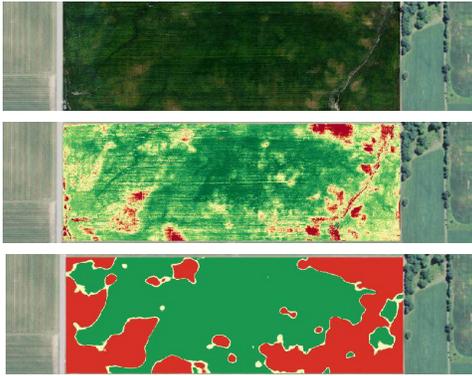
Starting from the top image, this progression shows the field outline, the Normalized Difference Vegetation Index, and the Hotspot analysis for the same field.

Whether you're a grower interested in boosting yields, an agronomist who wants to scientifically explore the data, or a GIS analyst who needs to present easy-to-interpret results to end users, ENVI Crop Science has something to offer.

DETECT ANOMALIES
Using proven geostatistical analytics, the Find Hotspots and Find Developing Hotspots tools can determine regions of a field that require attention. These regions are above or below the average behavior of the field. Using these tools helps to deliver the information needed to apply prescriptive farming techniques and not waste fertilizer or pesticides on regions where the field is vigorous.

DETERMINE AREAS OF INTEREST
When trying to answer a question using imagery, it is important to focus on areas that matter. ENVI Crop Science has the tools to automatically isolate these regions and prepare the data for further analysis. There is no longer the need to hand-digitize management zones nor manually geotag individual plants and trees for modeling and analysis purposes.


Crop location overlaid on high-resolution orthoimagery obtained from the USGS.

COMPUTE REGIONAL STATISTICS
In the age of sub-inch pixels, farmers and data scientists alike are drowning in data. Calculate Crop and Zone Metrics tools aim to lessen that burden by removing the need for you to perform number crunching and complex image analysis, leaving you with the more manageable task of applying business logic to what is learned.

VISUALIZE AND SHARE RESULTS
Results from ENVI Crop Science can be rendered into report-ready graphics with either a relative color table applied or absolute values. Many of the results can also be converted to shapefiles with associated attribute tables. Shapefiles make it easy to use ENVI Crop Science products across most of the popular farm management systems.
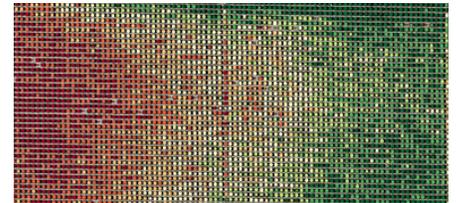
Average NDVI values per grapefruit tree. Color representations are based off of variability within the field.

About Harris Corporation
Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world. **Learn more at harris.com.**

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