WEBINAR Q&A

Use Multispectral Imaging to Boost Crop Health: From Data Collection to Analysis

How can I share a recording of this webinar?
A recording of this webinar can be found here.

Do you have tutorials of the products featured in the webinar?
Harris: http://www.harrisgeospatial.com/Support/SelfHelpTools/Tutorials.aspx
MicaSense: https://support.micasense.com

What is the pricing of the various products?
For PrecisionPass, ENVI OneButton, or ENVI Crop Science, contact us for specific quotes. For MicaSense's RedEdge-M, visit https://www.micasense.com/rededge-m/ or contact drew@micasense.com.

What flight altitude would you recommend in order to get quality data? What is the max shooting speed of the camera? Would you recommend bright sunny days or overcast days?
Check out this article Best practices: Collecting Data with MicaSense RedEdge and Parrot Sequoia.

What's the difference between RedEdge and Sequoia sensors?
Sequoia is simple to operate, fully capable yet lightweight and cost-effective. The additional band (blue), improved GSD, and multiple integration options make RedEdge an ideal solution for research and advanced integrations. Read our article to learn more.

Do you have integration kits for SenseFly eBee, DJI M100, DJI Inspire?
Yes, check out MicaSense's integration kits.

What are the RedEdge band numbers?
This article provides the center wavelengths and bandwidths of each filter on the RedEdge camera.

The biggest challenge for us is the scale of farming for our clients. How does imagery processing times with PrecisionPass compare to Pix4D?
PrecisionPass is a field validation tool that is meant to work in concert with something like Pix4D. The PrecisionPass purpose is to give you a quick view of the data so that you can determine if it can be processed later. With regards to loading time, the collection Austin showed in the webinar (~170 images) takes 29 seconds on his machine to load and begin viewing.

Can ENVI work with Pix4D?
Yes, ENVI can ingest the final results from Pix4D.

Can data be exported in an excel spreadsheet? Statically data format?
The spectral and spatial statistics produced by ENVI and Crop Science can all be output in CSV format.

Can other formats be sent from other multispectral sensors other than MicaSense?
Yes, Harris prides ourselves on being data agnostic. Our products can take in many different camera formats.

Does MicaSense or ENVI offer any objected-oriented tool for plant counting?
Yes, ENVI Crop Science has a crop counting tool. Also, you can find and extract specific objects of interest from all types of imagery with the ENVI Feature Extraction Module (ENVI FX).

What spatial resolution is needed for plant counting?
When using the ENVI Crop Science Crop Counter it is important to have high enough spatial resolution to be able to resolve individual plants. The ground sampling distance will vary depending on the type of plant that is being counted.

Is ENVI Crop Science workflow done in the cloud or can we do it offline in the field?
ENVI and ENVI Crop Science can be run in either location. To develop this webinar, Austin did all of the processing and development on his local computer, but he could have just as easily sent the models to a cloud environment and gotten the results back using Geospatial Services Framework (GSF).

Is there a way to compare vegetation across fields?
It's important to make sure all of your imagery is radiometrically calibrated. Using something like the calibration panel provided by MicaSense can help with this. Once all the imagery has been calibrated then scene to scene comparisons can be made.

Where can I get the equations for all the different indices (ie, GCI or NDRE)?
All of the documentation for each of the vegetation indices used by ENVI can be found at here.

Do you recommend eliminating the ground information from the data processed when analyzing it? So only show the crops?
Yes. The easiest way to accomplish this is by sub setting the data via a threshold on a vegetation index image. Once the vegetation has been isolated further local and global statistics can be run on only the vegetation.

You mentioned this was an end-to-end solution. What about delivery of processed imagery to clients? Especially in convenient web-based platforms that they can interact with?
There are many different ways in which the data produced can be consumed. The outputs can be save to a number of different image formats including PDF. If you are using our Geospatial Services Framework (GSF) the results can be requested via a REST call and then served to your front end of choosing. Also, many of the results shown in this webinar can also be saved to shapefile and ingested into other applications for display.

Which GIS or image processing software would you use for data processing afterwards, once an orthomosaic is created with calibrated reflection values?
We recommend ENVI and ENVI Crop Science to process the data and extract meaningful information from the imagery.

What do you use for geometric calibration? If you are taking measurements at different times-points, the orthomosaics need to overlap from one week to the next.
You are exactly right. The GPS on the UAV is very good but not perfect. In order to get the results that Austin achieved, he used ENVI's automatic image to image registration capabilities.