

QUICK GUIDE

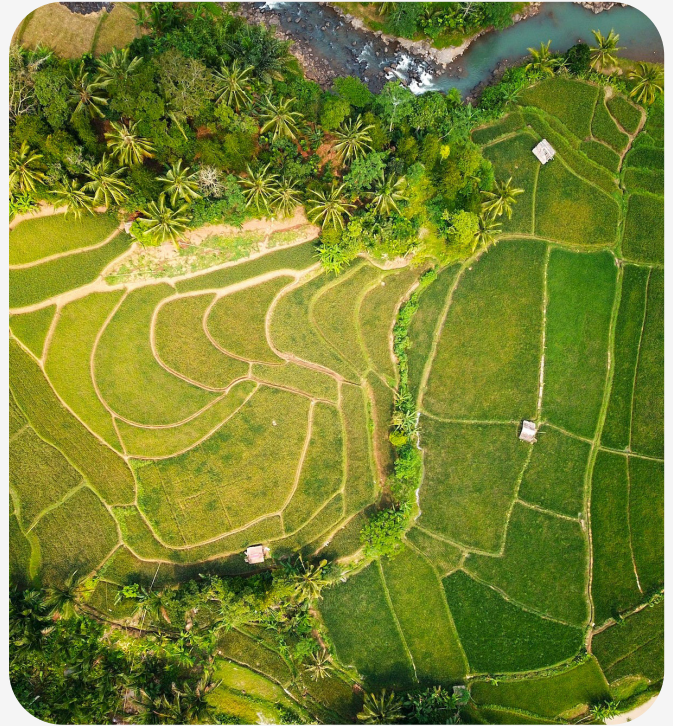
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INCREASE AGRICULTURE PRODUCTIVITY WITH MULTISPECTRAL IMAGERY



Challenges

Over the last decades, technological developments in agriculture have allowed to greatly expand harvesting areas. But such larger fields make yield control, disease inspection and irrigation systems much more complex. Further complicating things, each agricultural plot has its own unique characteristics (e.g. soil fertility, sun exposure), affecting productivity and profitability per unit area. Thus, an agrarian management plan for each plot is often necessary to better estimate soil conditions and improve crop productivity.



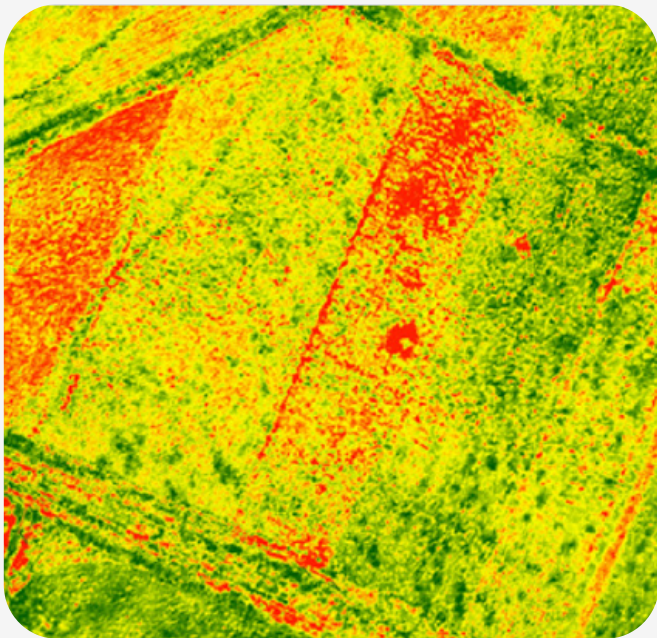
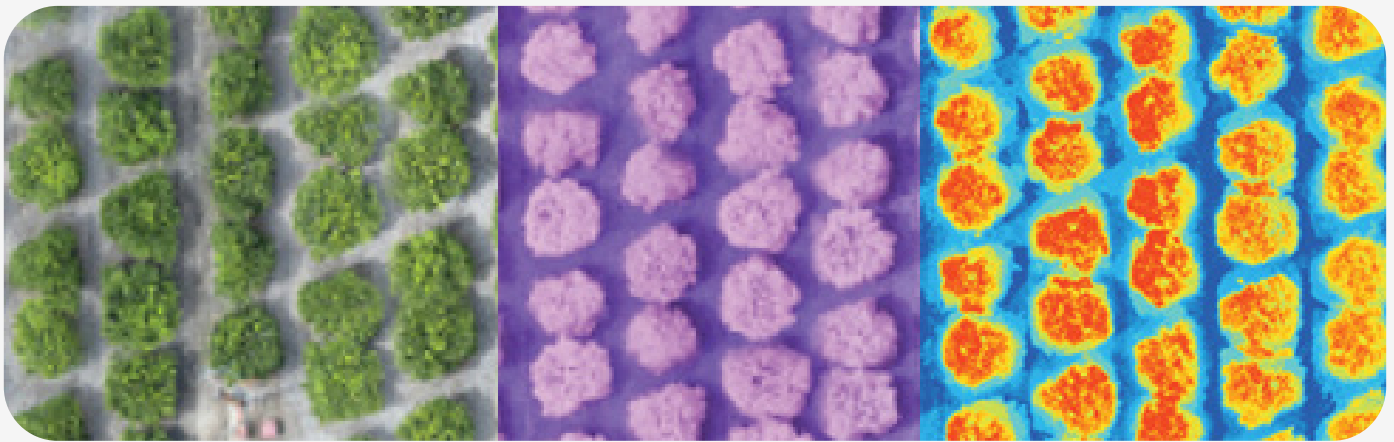
Collection

Imagery can be collected by aircraft, but drones are becoming widely used due to their low operational costs and ease of use. Multi-rotor or fixed-wing platforms can be flown, depending on the size of the area to be covered, and operational constraints. In addition, the various sensors now available, such as thermal and multispectral cameras offer new tools particularly useful for agriculture as they collect information invisible to the naked eye.



Processing

The collected data can be quickly processed by Correlator3D™ software to create different mapping products. The use of a high-end photogrammetry suite offers the operator the ability to process imagery in the field, verifying complete coverage, and accuracy in the results of the products being created. These include digital surface and terrain models as well as orthomosaics. For agricultural applications, calibrated reflectance maps are particularly useful. Index maps can also be calculated by deriving a Normalized Difference Vegetation Index (NDVI). This can be calculated directly in Correlator3D to compensate for changes in lighting conditions, surface slope, exposure, and other external factors.

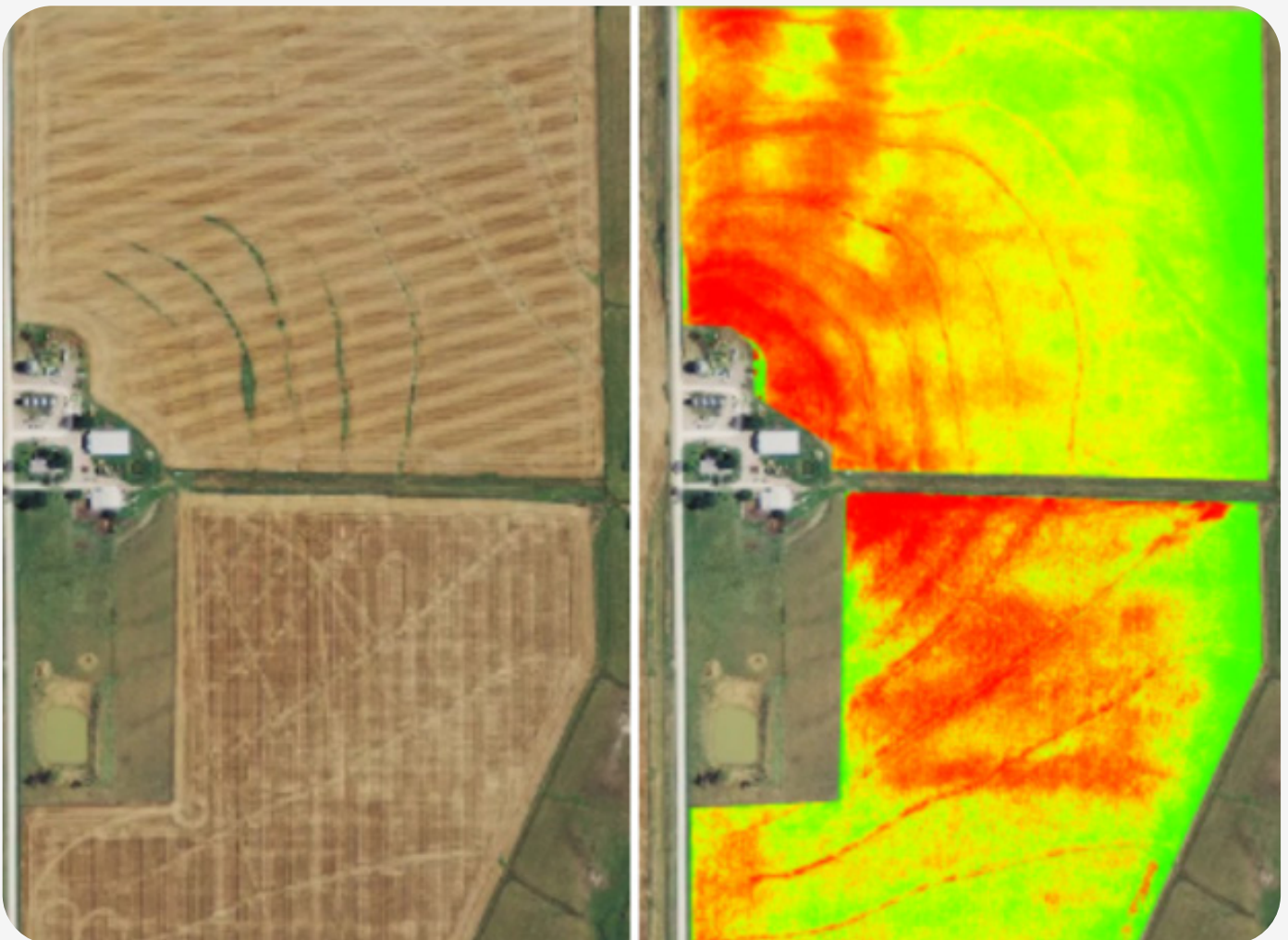


Interpretation

The resulting data can be used to assess vegetation health as NDVI maps. Abnormal changes in the growth process can also be detected. Reflectance and NDVI maps are often used to locate stressed plants and to measure crop productivity as well as to predict future yield. Elevation models can also be used to improve irrigation systems, considering the slope of the land within the overall watershed.

Benefits

The use of accurate mapping data in agriculture supports stronger yield optimization. For example, irrigation systems can be improved by better placement, taking natural slopes into consideration. Spraying operations to fight infections and pests can be more effective since the exact status of fields can be accurately measured, and stressed yields can be pinpointed. Orthomosaics can improve crop surveillance by precisely quantifying losses caused by severe weather, overspray, drought or infestations. Overall, photogrammetry brings major advantages in agricultural monitoring and contributes to the maximization of profits.



Next Steps

Discuss your specific requirements
with our specialists

SCHEDULE MEETING

