draganFLY INC

Agriculture Use Cases

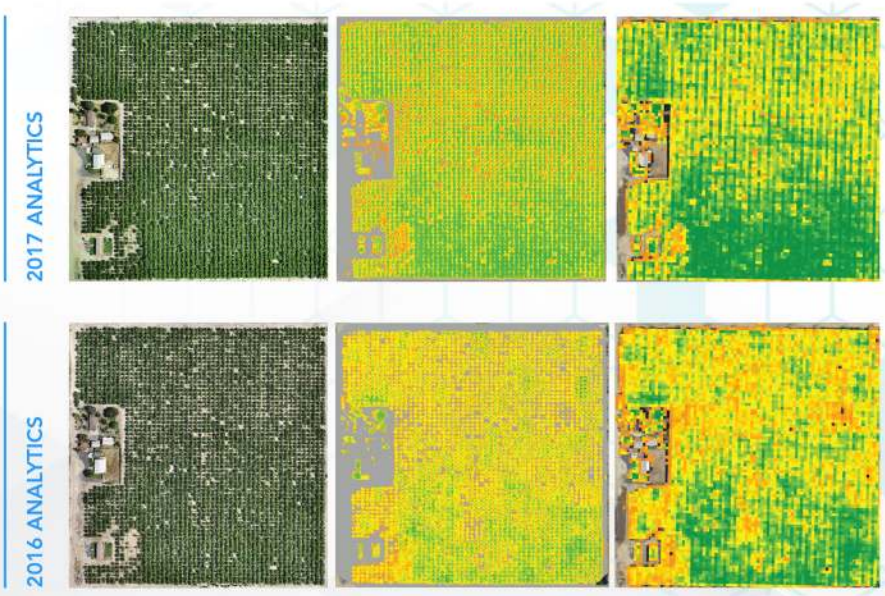
Yield Maximization

PUTTING AERIAL DRONE DATA ANALYTICS TO WORK

Using UAV Technology: How One Walnut Grower Realized Higher Yields

A walnut grower in Modesto, California had consistently received lower yields from the northern part of his field due to its sandy soil profile. Insights gained from **drone data analytics allowed him to target inputs** for **increased canopy and yield.** In the spring of 2016, imagery was collected and analyzed over two seasons on a 40-acre field to determine if analytics from drone imagery could help pinpoint areas of stress, and support a different management strategy. Imagery was collected using **true color and multispectral sensors, and subsequently processed using AV DSS for deeper insights.** The analytics revealed that the northern half of the field had less-dense canopy coverage and appeared more stressed than the southern half of the field.

The grower was able to assess the **initial analytics**, and **modify his management strategy to boost yields on the sandy portion of his acreage.** Optimizing irrigation practices and using the top-dress method for applying nitrogen to his entire field, allowed the grower to avoid over-application in the northern part of the field and avoid increasing nitrates in the groundwater table.



With balanced water and nitrogen applications, the **orchard achieved healthier trees and larger canopy.** Overall, the grower saw his yields increased by **21%** which resulted in a **profit increase of $51,960** across the 40-acre field.