Multi-scale Monitoring Tools for Managing Australian Tree Crops

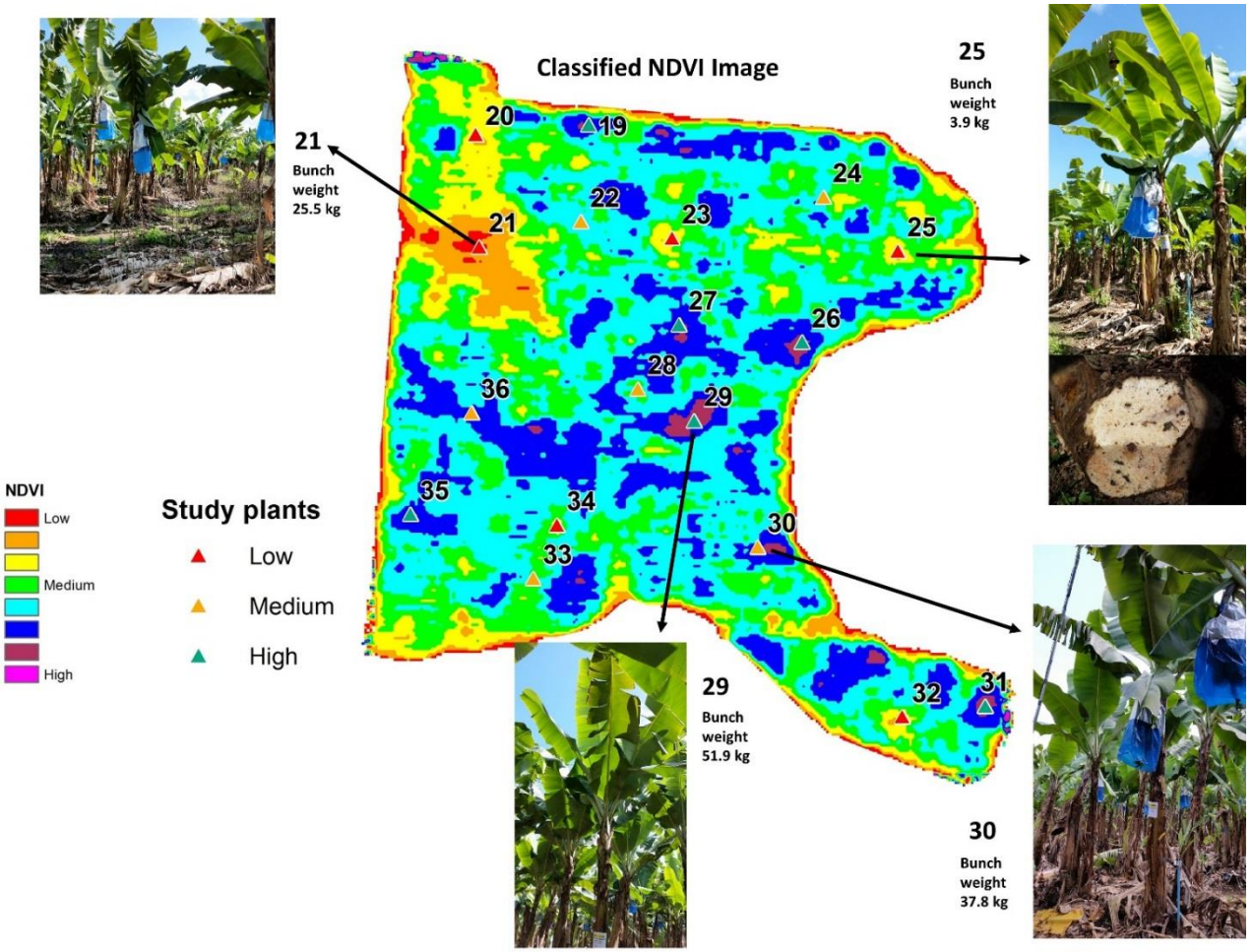
Aim: Evaluate various remote and proximal sensing tools to improve productivity and the early detection of stress

How is it relevant to Banana industry?

Precision agriculture is widely used with broad acre crops to improve productivity and to explain variability. Currently precision agriculture is not used in the banana industry to any large degree. This is mainly due mainly to lack of crop uniformity and access to expensive imagery. This project is helping to assess these issues and understand how it can be applied to banana production systems

How does it work?

Worldview 3 satellite sensors can detect portions of the electromagnetic spectrum that are not visible to the human eye. One example is the near infrared (NIR) band which reflects more in healthy leaves and less in unhealthy ones. The Normalised Difference Vegetation Index (NDVI) is commonly used in agriculture. NDVI is a combination of the red and NIR spectral bands. NDVI is excellent at detecting the amount and quality of chlorophyll and hence crop productivity and health.



Above: NDVI was used to identify low, medium and high productivity areas that coincide with low and high yielding plants

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