

POSTER PRESENTATIONS

Uses of Satellite Imagery in Controlled Traffic Farming

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High resolution satellite imagery is captured all over the world by GeoEye's IKONOS satellite and DigitalGlobe's Quickbird satellite. From these satellites, we receive images with resolutions down to 0.6m of detail on the earth. Satellites also capture in the near infra-red wavelengths, not visible to the human eye, which allows for assessment of crop condition, otherwise undetectable from the ground perspective.

Satellite imagery is a useful tool in developing and maintaining controlled traffic farming systems. With enough detail to identify individual trees, and even wheel tracks within paddocks, imagery is useful for basic farm planning, area measurement and vegetation identification. Combined with analysis techniques, crop health and changes in vigour can be identified easily.

IKONOS imagery is supplied on a per sq km basis over the area you require, and can be formatted for use in all types of farming and mapping software. Processing involves mosaicking of individual swathes of images, orthorectification to increase positional accuracy, and other analysis techniques such as NDVI.

Normalised Difference Vegetation Index is an algorithm using the near infra-red band of the satellite to highlight the photosynthesizing capacity of the crop, thus identifying any irregularities within a paddock or farm. NDVI can pick up such anomalies as crop disease, water-logging or areas that might require more nutrients. Images can be captured on a regular basis, eg. annually, to monitor change and improvement within the pasture.

The benefits of satellite imagery in property planning and crop monitoring can often far outweigh the initial cost outlay.