CropQuant – The Next Generation Crop Monitoring Workstation for Precision Agriculture

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Rising temperatures, drought, nitrogen uptake, plant disease and crop lodging are major threats to global crop production. Currently these threats to food supply are identified and monitored by skilled people who spend weeks in the fields. This is time-consuming, laborious, subjective and expensive. Therefore, there is a pressing need for cost-effective and reliable field phenotyping devices, which can automate crop monitoring and provide consistent readings of key traits that are important for agriculture.

By allowing growers and farmers to continuously inspect crop growth in the field during the season, problems such as drought and plant disease could be identified at an early stage, reducing potential costs. Dr Ji Zhou (TGAC/JIC) and Dr Simon Griffiths (JIC) have jointly invented CropQuant, an infield crop monitoring workstation which is considerably more cost-effective and easy-to-use than existing solutions. CropQuant has the ability to automate the quantification of wheat crop growth, canopy compactness and the vegetative greenness change during the growth season – key indicators of successful crop production.

After consultation with potential customers, the team now aim to produce a new prototype of CropQuant to attract investment which is affordable, capable of undertaking the key measurements, endurable, and mobile. The benefits of CropQuant are both economic and environmental, facilitating precision agriculture which will optimise the application of agrochemicals, reducing the cost to the farmer and enhancing soil and water quality.