

HeliDNA: Prediction & monitoring

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previews one of the innovative project areas planned at the Helix Technology Farm – the monitoring and prediction of climate, pests and disease.

This Helix project's aim is to link new technology and modern farming. One of the areas that we are looking at within the Helix Project is the use of technology in the monitoring and prediction of climate, pests and disease.

The aim is to increase farm productivity and justify decision making as part of integrated crop management. It will ensure growers and agronomists are fully aware of potential risk factors across multiple fields and crops and make it all much simpler to visualise.

Risk prediction

Accurate risk prediction can help to justify decision making on farm and record when there is a likely need for treatment. There are numerous factors challenging pest and disease management. Resistance is already a significant issue, but with a reduction in active ingredients and a more volatile climate, this risk could continue to increase. Our best means of managing this is to use this technology to ensure our timing of application is as effective as possible, whilst mitigating against the risk of increasing resistance and any effect on the environment.

We hope to be able to predict crop growth alongside emergence of important pests and disease, allowing growers to better target their time and attention and thereby improve accuracy and efficacy.

Using Climate data

The essential starting point to any prediction or modelling systems



is an accurate and local source of climate data. We believe that we have found a suitable system which offers accurate weather recording and forecasting across the UK, this data can then feed a number of crop models which are being developed.

Monitoring and prediction of key growth stages of different crops is one of the initial areas of development. This would allow growers and agronomists to plan and make essential management decisions on a crop by crop basis. This will include pest and disease modelling in a range of different crops.

Pest and disease prediction utilises climate data alongside crop management information to indicate the risk of pests or pathogens entering the crop, it is important to remember that this will indicate risk and should then be combined with grower and agronomist interpretation to make more accurate decisions.

BYDV risk forecasting

One of the key models we hope to be able to launch prior to the autumn is a BYDV risk forecasting tool. Obviously, with the loss of neonicotinoid seed dressings, the risk of potential virus infections increases dramatically.

Accurate timing of when to apply aphicides is difficult and keeping track of crops with various drill and

emergence dates across entire farms is exceedingly difficult. By utilising climate data and drilling date information, this system can predict when the more damaging secondary spread of aphids is likely to occur and help to justify insecticide applications to mitigate this risk.

These prediction models will all be driven through our Omnia system to make the risks far simpler to visualise and bring risk management into the day to day crop management decisions being taken on farm.

Follow future developments at the Helix National Technology Development Farm via our website: www.hlh ltd.co.uk or contact us for more information: information@hlh ltd.co.uk



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