Fieldwise
AGRONOMY NEWS FROM HUTCHINSONS
Crop Production Specialists
JUNE 2020

Free Access to Omnia's new Climate Module

The latest exciting development to Hutchinsons Omnia Precision platform, a Climate monitoring and prediction module, has been launched to UK growers with a free-to-try offer.

Omnia's Climate module revolutionises the way in which users can access current and historical weather data, to make more accurate crop management decisions.

The Omnia Climate module provides more detailed and accurate weather data than is possible from physical weather stations, which are notoriously expensive and need constant maintenance.

Omnia's Climate module uses virtual weather stations which can be pinpointed at any location, providing weather data accurate to 1km^2 of that station for a 10-day period.

Measurements provided within the module include not only the standard units for rainfall, temperature, windspeed and solar hours, but also soil moisture. It is also possible to access historic weather data for that site for the last ten, or thirty, years.

***David Howard** - Hutchinsons Head of Integrated Crop Management*

So how does this improve on farm-decision making?

The concept behind the Climate module comes from the Predict & Justify project at our national Helix farm in Northamptonshire, explains **David Howard**, Head of Integrated Crop Management at Hutchinsons.

>

Omnia
Precision Agronomy

> "The premise of the project is to look at how data from the field can be turned into agronomic knowledge, so this means looking beyond data collection, and taking it a step further into *interpreting* the data to develop improved and more accurate modelling, to support better informed decision making on farm."

"Enhancing the accuracy of crop modelling lends itself to pro-active decision making and more accurate agronomic advice, which is the cornerstone of integrated crop management."

Crop Growth modelling

Within the Climate module software, a combination of the 10 day forecast and long term average weather data is used to predict when key plant growth stages are going to occur.

Users can allocate specific fields and are presented with a sliding scale, to access visual representations of crop growth and certain growth stages. This allows them to plan inputs and workloads more effectively, whilst also predicting and alleviating crop stress.

Pest and disease forecast modelling

Barley Yellow Dwarf Virus (BYDV) is an ever increasing threat to crop production, following the loss of neonicotinoids. Growers need to balance the limited control options against aphid pressure – so knowing exactly when is the right time to spray for optimum control is vital.

Climate module software Screenshot

Predicted growth stages within the new climate module software

The Pest and Disease forecast model tackles this by using weather data to make treatment timings as accurate as they can be - on a field by field and drilling date basis and sends out an email alert to the user.

Blight monitoring and prediction

Potato growers usually have crops spread over a wide area, so using data from one weather station to predict blight events is fairly inaccurate.

However, using the blight monitoring and prediction model, it is possible to access precise weather data for a specific location for 10 days.

This feature makes understanding the exact risk much more accurate and is particularly useful in tight seasons, to make sure that sprays are going on in the right place at the right time.

As with all of the tools within Omnia, the user can override the system. It is important that the model reflects what is in the ground, for it to be both useful and valuable.

For more information about this exciting innovation, please visit www.omniaprecision.co.uk

***Nick Strelczuk** - Hutchinsons Precision Technology Specialist*

For anyone who does not already have Omnia, wishing to access the Climate module, this is now possible with a free to access offer, which allows users to create customised farm maps and access weather data for their required fields or locations. Just follow a very simple sign up process, which only takes a few minutes at **www.omniaprecision.co.uk**, explains **Nick Strelczuk**, Hutchinsons Precision Technology Specialist.

Changing the thought process for OSR success

The inclusion of oilseed rape on many UK farms has reached crisis point, with decisions being made now on individual farms whether to continue with the crop, albeit in a reduced area, or remove it from the rotation altogether.

Dick Neale - Hutchinsons Technical Manager

Dick Neale, Hutchinsons Technical Manager, believes that we need to take a longer term approach to the viability of the crop.

Firstly we need to look at why we find ourselves in this position, so that we can move forward, he says.

"The loss of neonicotinoid seed treatments is cited by many as the dominant reason for the crop's decline in the face of Cabbage Stem Flea Beetle (CSFB) attack and Turnip Yellows Virus (TuYV). However, we need to recognise that whilst the neonics have real benefits in TuYV control, failures in control from neonics were being seen long before their withdrawal, and comparison trials during their withdrawal period showed little worthwhile impact from their continued use for CSFB control."

Mr Neale says that whilst the manner in which neonics have been lost and the resultant broadacre use of foliar insecticides is questionable and regrettable, it does not change the fact that any re-introduction would not change the current situation.

So why the massive increase in crop failures?

"Fundamentally we have grown far too much winter oilseed rape," he says. "Economically and logistically this made absolute sense, but as a crop it has proved far too fragile to consistently maintain an area being grown in excess of 700,000ha.

For harvest 2020, we are now looking for it to have pruned itself back to around 350,000ha."

"As a crop, winter oilseed rape has been subjected to more sowing techniques than any other I can think of, many of which simply cannot be right for a small seed that demands good seed to soil contact and will not tolerate aggregate size in excess of 15mm and also needs consistent levels of moisture for at least 7 days post seed germination."

"We know that, increasingly, the need for rapid and consistent emergence across the field is being seen as key to avoid adult beetle grazing. This demonstrates that far more consistent and focussed establishment techniques are required - broadcasting seed as soil is randomly moved with a subsoiler just does not cut it," he says.

"Lack of moisture in the seedbed has been a dominant factor in the past two seasons, and this must be a key driver in the decision to continue or stop sowing."

He adds that slugs across the rotation and the ever-present pressure from winter and early spring grazing by pigeons, are also valid reasons to review the rotational position for the rape crop.

So how to react?

Continuing to establish significant areas in hope cannot continue, as failures in the spring have served simply to cycle significant Cabbage Stem Flea Beetle larvae for yet another year, he says.

"The only way we can break this cycle is a significant and co-ordinated reduction in area of crop grown in the short term, with the objective of returning the crop to rotations at a sustainable level of inclusion and area of around 450,000ha."

The fundamental decision is that the crop cannot be grown at its current frequency or hectarage within any rotation, with an objective to grow winter oilseed rape no closer than one year in five, he adds.

Mr Neale believes that the area sown to the crop on individual farms should remain flexible in any given season - a lower reliance on the crop overall and the need to limit rotational inclusion annually will assist this in this process.

Where the decision is being made to grow oilseed rape, there should be a high potential for success," he points out.

Seedbed quality and moisture availability are the key parameters to this, he says.

"However, national data suggests that the August moisture window has moved earlier in the month over the past decade – so will ground be cleared in time?"

Acacia winter oilseed rape

As rape inclusion in rotations is extended, it is possible to address some key agronomic practices that will help with the success of the crop.

- **Building the potential seedbed** for two years before sowing, with minimal soil movement and the preceding crop allowing for early establishment.
- **Limiting varietal options** to specific traits where yield, while important, is not the sole driver.
- **Having adequate seed bed moisture:** drilling windows may vary according to when adequate moisture is available. Being prepared to stop drilling when moisture levels reach a minimum level to maintain growth over the subsequent seven days, is a vital discipline. This will require a change in mind set and flexibility in variety choice and seed delivery options.
- **Sowing techniques:** while a number of sowing techniques have proven viable for winter oilseed rape, the area into which seed is placed must provide good seed to soil contact, adequate moisture retention and protection from slugs.
- **Seed rates** should not be increased beyond 80 seeds/m^2 for either conventional or hybrid varieties. If a higher rate is considered necessary, the seedbed is not good enough.
- **Placement N+P fertiliser** should be utilised as micro granules, granule DAP or liquid DAP.
- **Companion plants** to include Buckwheat, Vetch, berseem clover or beans can be utilised to maintain soil functionality, suppress weeds and enhance the growth of the rape. Companions should not be considered a viable deterrent for CSFB, or offer a yield improvement within the crop, although the additional biomass does help reduce pigeon grazing. Companions help negate the poor soil biology associations of brassicas.

Variety selection

There are three or four key areas to look for when choosing an OSR variety, according to Hutchinsons Technical Support Manager, **Neil Watson**. "These are yield and oil percentage, disease resistance and standing power. There are obviously exceptions to this in specific areas, such as where there are issues with Clubroot, or where Clearfield® varieties can play a role in weed control, for example."

"TuYV is an increasingly prevalent issue in the UK; annual monitoring of TuYV infection in the UK's oilseed rape crop has shown that 84% of non-TuYV resistant crops were infected in early spring 2019 - the highest levels ever recorded. In light of this, TuYV resistant varieties recorded some of the highest yields, proving the value of the genetic trait."

"It is now possible to choose varieties with a number of these traits that help to protect that top level yield from TuYV resistance, to pod shatter resistance, and RLM7 stem canker resistance. Robust disease resistance ratings are invaluable, as these help to mitigate spray timings risk whilst also reducing our total reliance on chemistry."

Standing power is important for a variety to be successful on farm, particularly on fertile or exposed sites, he adds.

"Vigour is becoming increasingly valuable and talked about, as growers look for varieties that are able to get up and away in the autumn and are also quick off the blocks in the spring.

On this basis, if you look at the top yielding varieties on the 2020/21 AHDB Recommended List, it makes for an easy choice, continues **David Bouch**, Hutchinsons Seed Manager.

"Fully loaded hybrid **LG Aurelia**, which sits across both the East/West and North region lists, offers an extremely high gross output and a full compliment of genetic traits. It also offers the most robust disease resistance ratings of any variety on the AHDB Recommended List, with a rating of 8 for both stem canker and Light Leaf Spot resistance."

"**Dazzler** is also a good option, sitting on the East/West list with a similar set of traits. The candidate variety **LG Aviron**, is a four trait variety, offering TuYV, pod shatter and RLM7 resistance, and the new N-Flex trait, which allows the OSR plant to be more efficient in transforming N into yield."

"If looking for a conventional variety, **Campus** is still the most widely grown conventional OSR and is on the Recommended List as a control for both the North region and East/West region, demonstrating its consistency and suitability for the whole of the UK."

"It has high ratings for lodging resistance and stiffness, as well as a disease resistance rating of 6 against light leaf spot. The variety is known as the 'seed with speed', establishing quickly in the autumn, and has more vigour than many hybrid varieties."

"**Acacia** is the highest gross output conventional variety for the East/West and North regions, with a gross output of 109.5% and 107.6%, respectively. The variety is very vigorous in both the autumn and spring, combined with good disease resistance and short and stiff straw. Acacia is suited to the main OSR drilling window but is also useful in a late sown slot."

"Where looking for a Clearfield® option, **Phoenix CL**, shows excellent autumn vigour, with a good seed yield and a good disease resistance profile."

If you have queries about continuing to grow OSR on your own farm, do discuss them with your Hutchinsons agronomist, or please contact us: information@hlhltd.co.uk

Fieldwise LIVE kicks off

Fieldwise LIVE gives growers a unique insight into the latest agronomic research, with expert commentary from those managing plots, as well as a way of monitoring disease pressure and crop development around the country.

May to July is normally a busy time for variety and agronomy demonstrations, but with events across the country cancelled due to the Coronavirus pandemic, Hutchinsons agronomists will instead be posting regular updates from their local sites in the dedicated Fieldwise LIVE section of the Hutchinsons website www.hlhltd.co.uk.

Videos and photographs will be available from Regional Technology Centres (RTCs) situated around the country from Alnwick to Cornwall, the flagship Helix project demonstration farms in Northamptonshire and Suffolk, plus the Lincolnshire Brassica demonstration and Suffolk Fenland Potato site.

These will provide observations from the trials and demonstrate the detailed monitoring crops are subjected to throughout the growing season, including plant/tiller counts and biomass assessments to determine the effectiveness of various agronomic strategies for improving yield.

Latest technological solutions on show

A highlight will be video updates from the Helix National Development Farm in Northamptonshire, which will showcase technologies that aim to ultimately increase efficiency, productivity and profitability for growers, amongst them: -

- Climate systems that can enhance planning of input applications
- NDVI imagery for better monitoring and variable rate inputs
- Ongoing development of TerraMap – high definition soil mapping
- Hybrid wheat development
- Yield and cost of production mapping to improve field profitability.

Also at this site, dose response trials of different nitrogen, sulphur, phosphate and potassium products are being trialled in hybrid and conventional winter wheat.

At the Helix East site in mid-Suffolk, Hutchinsons Trials & Technical Manager Bob Bulmer and Crop Nutrition Specialist Rob Jewers are examining how to optimise yield in spring barley.

"The key to yield in spring barley is ear number, because it doesn't have much capacity to set a lot of grains per ear," Dr Bulmer says.

With that in mind, some plots were direct drilled with a Weaving GD in early April at a range of seed rates; 300, 400 and 500 seeds/m^2, to gauge how this affects plant count, biomass development and final yield.

Further work is investigating ways to improve phosphate use efficiency, which is typically just 10% in spring barley, well below the 60% efficiency for nitrogen.

"We're also looking at using soil bacteria to improve rooting and thereby increase phosphate uptake during establishment."

Local trials help select the right variety

Variety comparisons take center stage at many of the RTCs, allowing growers to see first-hand which perform best in the climate, soil types and growing conditions unique to specific areas.

Many new and established cereal and oilseed varieties are on display at our sites, with agronomists monitoring crop development, disease pressure, lodging and final grain quality, with a view to determining each variety's suitability for local, or national end markets.

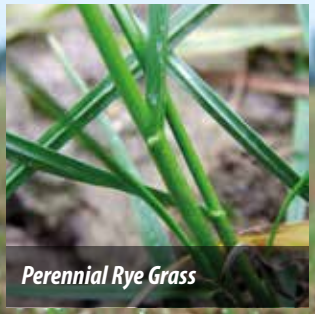
How to join Fieldwise LIVE

Videos from all of our trials sites will be posted at regular intervals this season on the dedicated Fieldwise LIVE page of our revamped website www.hlhltd.co.uk and linked via our Twitter and Facebook pages.

Viewers can follow crop development and listen to the best advice on how to manage them, from our leading technical experts and agronomists.

Regional Technology Centres 2020

1 Carlisle
2 Alnwick
3 Warden Farming, Grayingham
4 Little Ponton
5 Ludlow
6 Harleston
7 Stowbridge
8 Fenland Potato Demonstration
9 Sutton Bonington
10 Brassica Demonstration
11 Helix National Technology Farm
12 Helix East Demonstration Farm (NEW)



Perennial Rye Grass

Annual Meadow Grass

Getting a grip on grass weed control

Technical Managers, Dick Neale & Cam Murray consider problem grass weeds and highlight the likely control issues this autumn.

Cam Murray
NORTHERN TECHNICAL MANAGER

Season 2020 could leave us with a number of legacy issues to deal with, not all of which may be immediately obvious. Grass weeds, with their variable dormancy characteristics, might be a significant one of those.

Burial, aerobic or anaerobic conditions, light and temperature stimulation all impact dormancy duration and break. Soil movement this spring followed by rapid drying could throw some unexpected surprises this autumn, so be prepared to observe and react rather than assume the normal rule book will be followed.

Expect the unexpected

Limited emergence this spring in dry conditions pre-May could leave seeds primed for rapid germination this autumn, so expect the unexpected. **Black-grass** in particular has not been so successful because it ever followed the rules!

Brome grasses are extremely fickle with regard to dormancy, both when being induced and broken, and **wild oats** are extremely reactive to extremes in seasonal conditions.

Rye Grass is continuing to develop and the overwhelming crop damage this grass can do in high populations cannot be understated. Rye grass seed will shed well before harvest, so if you can leave it on the soil surface for some time you will get some amount of bird predation on the seed.

Stale seedbeds are a good option early on, if you have soil moisture to encourage germination.

If you have suspected resistant Rye grass, then do not go down the road of insanity by doing the same thing you have always done – consider cropping rotation and spring crops are a must if you are in this situation.

Rat's tail fescue – a Northern problem that has developed over the last few years – is a grass born out of low disturbance tillage and loves that medium, being notoriously difficult to control. FFCT Residual + Avadex stacking will help get you a good start on this grass weed, also consider your cultivation strategy, as it is a shallow rooted grass and is considered intolerant of repeated tillage.

Overall control so far

Overall control of grass weed plant numbers, where residuals where successfully applied, has been good this season. However, open and slow growing crops this spring will see surviving grass weeds produce multiple tillers, so we could well be disappointed with overall control of heads as harvest approaches.

A high proportion of spring cropping this season will undoubtedly have a beneficial impact on grass weed control overall and this is a situation that must be capitalised upon this autumn.

Reduction in seed return

One of the key requirements for grass weed control is a reduction in seeds returned, so assess carefully the success of this and ensure that soil management decisions capitalise fully on any reduction in seed return.

For any grass weed, one of the most successful routes to control is to leave seed on the surface for as long as possible. For some bromes this is vital to prevent dormancy being induced, but in all cases the seed is open to predation, degradation and loss of viability.

A close eye on the weather forecast

Sowing early this autumn will be very tempting and that is understandable in light of the 2019 deluge. However, we need to take into account geographical regions across the country and in the midlands and south we should watch the weather forecast closely this autumn.

In the north however, the penalty for late drilling and establishment far outweighs any penalty for drilling early. Black-grass, although an issue in some areas, is not the key driver for drilling dates in the north.

Nevertheless, dry soil conditions in any geographical location will see poor grass weed emergence pre sowing of crops in late September or early October and poor performance from residual herbicides, this is well documented

…and we will say no more!

If you have questions about this article, please contact us: information@hlhltd.co.uk