



### Project Optimising Output

Aim: to optimise output from a farm and field scale basis

#### Sub project 1:

Field yield and cost per ton of production evaluation  
Sub field analysis: the parameters of maximising yield potential



### Optimising field output



#### Optimising field output

##### 100% cropping

Field Size (ha)	Yield (tonnes/ha)	% Yield	Area (ha)	Yield (Total tonnes)	Operational CDP (£/tonne)
1	1.1	1.1	1.1	1.1	300
5	12.6	1.26	5.3	63	280
6	11.9	1.19	6.3	75	290
7	7	0.7	7	7	270
8	26.4	2.64	21.36	21.36	180
9	26.4	2.64	21.36	21.36	180
10	10	1	10	10	120
11	5	0.5	5	5	100
12	2.8	0.28	3.36	3.36	100
13	1	0.1	1.1	1.1	90
14	1	0.1	1.1	1.1	80
15	1	0.1	1.1	1.1	80
8.24	300	30	82.42	146	

Average Yield (t/ha) 8.24  
Operational CDP (£/ha) 2000  
Operational CDP (£/t) 146  
Average Wheat Price (£/t) 300  
Profit per tonne 146  
Total Profit (£) 36

##### 80% cropping

Average Yield (t/ha) 8.97  
Operational CDP (£/ha) 1200  
Operational CDP (£/t) 135  
Average Wheat Price (£/t) 300  
Profit per tonne 165  
Total Profit (£) 1170

#### Building Biomass: Crop dry weight (t/ha)

Incomplete canopy and weak light Full canopy Harvest

17.3 13.8 11.6 10.71 10.01 9.21 8.21 7.21 6.21 5.21 4.21 3.21 2.21 1.21 0.21

# Adding value to your farm: Sharing knowledge in 2021

Stuart Hill (Head of Technology and Innovation) introduces our knowledge transfer opportunities for 2021.

As we know, Corona virus rules and restrictions challenged the traditional approach to demonstration last year. This allowed an opportunity to be more innovative in our approach with the use of online seminars, videos and podcasts in the Fieldwise 'LIVE' format to demonstrate the important and exciting developments at Helix farms and Regional trial centres. Ultimately the topics and technologies we cover have to add value to you as growers and answer the 'so what' questions.

This year presents a different challenge again, in that the restrictions as we move through the spring and summer will, fingers crossed, be relaxing. It is vitally important we take into account risk and therefore our demonstrations will take various formats, such as Fieldwise LIVE, individual tours, small groups and in some instances structured open days.

We can use all these together and rest assured whichever delivery approach is used, we will always have your safety in mind.

We are in a dynamic period of farming brought on by evolving politics, Brexit, disruptive markets and technologies, transparency, financial instability, soils focus and the need to address climate change. All these factors link together to evolve solutions and this is at the core of the Helix concept and our Helix farms.

### Helix concept and farms:

Helix is all about adding value to the grower, financial and environmental and consequently sustainability. The aim is to develop new technologies that deliver more precise data that, along with agronomy interpretation and knowledge, then deliver added value advice.

There are **five focus areas** that we are concentrating on and asking ourselves what are the key challenges in these areas. These are **data and sustainability, improving soils, optimising nutrition, genetic benefits and integrated crop management**, which encompasses climate and environment.

Early farm scale development takes place at our Helix national development farm over in Northamptonshire, courtesy of Andrew Pitts. Further development and demonstrations are delivered at our emerging Helix regional farms, of which we currently we have four - these are Helix East, Helix North, Helix Borders and Helix Central. Further farms will come on board over the next 2 years.





> In conjunction we are monitoring the increasingly more strategic relationship between the grower and agronomist and how agronomy evolves into a more transparent, targeted, efficient and justified approach.

The first stage on farm is understanding the farm's current strategic position. Therefore, key criteria such as productivity, nutrition status, environment, soils, to name but a few, are key measurements as a start point. Achievable targets can then be agreed and a strategy put in place to accomplish those targets.

This last year has seen the development and introduction of technologies such as the climate system, TerraMap soil and nutrition mapping, BYDV, blight and growth stage prediction models, a field diary / scout app and cost of production mapping. Ultimately these need a central system to work through and that is where the **Omnia** platform comes in.

This year we are continuing to investigate and develop novel biological seed treatments and crop protection, Nitrogen and phosphate use efficiency, nutrition technologies, a farm planning tool, carbon mapping and improvement, integrated crop management techniques and transparency, along with increasingly targeted agronomy and yield prediction.

We will continue to demonstrate a combination of the technologies delivered last year, alongside the new developments, at our Helix regional farms - so there are plenty of exciting options to see. Fieldwise LIVE will again bring this development to life for you on our websites and social media platforms, so keep an eye on the Hutchinsons and helixfarms websites to keep up to date.

### Regional trial centres:

The Regional trial centres will contain a varied combination of small plot and larger block trials, which help to underpin our broader farm scale work at the Helix farms.

Our theme this year will be around Carbon and ultimately how we can improve carbon sequestration and management. Carbon is impacted by many aspects of crop production and these challenges are focus areas at our Helix farms.

All of the regional centres have winter wheat variety trials linked into a fungicide programme. This enables bespoke agronomy and also allows us to discuss risk management related to cropping choice, rotation and variety choice - all part of Integrated Crop Management.

We are researching seed rate influences on establishment, subsequent crop management and the impact on yield. This includes assessment of Hybrid wheat and blends, in comparison to conventional varieties.

There are also centres working on soils and nutrition, both a significant part of the overall carbon jigsaw.

As with Helix technology farms, you can see regular video updates from the Regional trial centres as part of Fieldwise LIVE on our websites and social media. This is a great opportunity to try different methods of demonstration and allow for greater discussion on these very important areas for farm sustainability. Fingers crossed, restrictions permitting, we look forward to seeing you during the year.

Follow progress at our demonstration sites via **Fieldwise Live** – view all the latest information on our websites [www.helixfarm.co.uk](http://www.helixfarm.co.uk) & [www.hlhlt.co.uk](http://www.hlhlt.co.uk)

### Helix Demonstration Farms and Regional Trial Centres 2021

- 1 Carlisle
- 2 Alnwick
- 3 Warden Farming, Grayingham
- 4 Trevone
- 5 Ludlow
- 6 Harleston
- 7 Stowbridge
- 8 Fenland Potato Demonstration
- 9 Sutton Bonington
- 10 Brassica Demonstration
- 11  National Technology Farm
- 12  East Demonstration Farm
- 13  North Demonstration Farm (NEW)
- 14  Central Demonstration Farm (NEW)
- 15  Borders Demonstration Farm (NEW)

