



# Making every hectare pay

## Sustainable Solutions

**Optimising productivity to return the best profit possible is helping one Kent farmer target long-term sustainability. CPM speaks to him to discover how he's doing this.**

*By Melanie Jenkins*

**Taking up farming full-time after the death of his uncle, Kevin Bell had limited agricultural experience, but he's now determined to make every hectare as productive and profitable as possible, setting the farm up to be sustainable in the long-term.**

Up until four years ago, Kevin had only occasionally helped out on his uncle Tommy Downe's farm in Charing, Kent, with his main career involving travelling around the world as a hydraulic engineer. But when Tommy became ill, Kevin took on running the farm full-time and has thrown himself into making it as successful as he can. "I'm farming just over 100ha, so I'm aiming to maximise the return on every single hectare."

Whereas Tommy was a plough and deep cultivation man, one of the main changes Kevin has made is to move to shallow cultivations using a low disturbance sub-soiler and a disc drill. "The farm has clay loam over chalk soils which are in

good condition, but we're aiming to reduce the movement of the soil and improve diesel and time efficiency," he explains.

However, he hasn't ruled out using the plough as the min-till approach has had the unexpected consequence of drawing flint to the surface of the field, and after several years, this results in a carpet of stones. "This means there's a lot of wear and tear on the disc drill whereas there wouldn't be with a tine drill, but the flint does help with drainage and warms the soil up."

### Organic manures

One of the reasons Kevin continues to move the top 10cm of soil is because organic manures are being reintroduced to the farm. "My uncle used to keep pigs and the manure was used on the arable fields resulting in really good crops, but because the fields are small, it can be a job to achieve big yields due to the large amount of headlands. Although we haven't used a lot of bagged P and K in the past, we're now introducing sewage sludge, digestate and paper waste product to help soils and crop health."

Although the farm does have some grassweed presence, the pressure is low, but Kevin takes a zero tolerance. "My uncle would go around with a sprayer backpack and target every weed but now we've moved to a low disturbance system, this has helped even more."

This season, Kevin has taken a different approach and is mainly growing milling

*“I'm farming just over 100ha, so I want to maximise the return on every single hectare.”*

wheat on the farm, be it in a first, second or third position due to having to make changes to his rotation. "We have good outlets for the crop in this part of the UK and the premiums looked good so I've



*Up until four years ago, Kevin Bell had only occasionally helped out on his uncle's farm but he's now running it full-time and has thrown himself into making it as successful as possible.*

planted Crusoe and KWS Extase with the aim of trying to make the milling grade.”

He also grows beans but these haven't fitted into the rotation this year, and previous attempts to grow oilseed rape resulted in the crop being attacked by just about everything, he explains. “My uncle did have an extra 100ha he rented, but I don't have this anymore which means our rotation has fallen out of sync.”

Kevin's agronomist, Neil Harper, has been integral to helping make changes on the farm and provides him with the technical expertise required to aid in making the business profitable. “It's been a challenge taking on the farm and I very much rely on Neil's expertise,” says Kevin.

Together they've begun to soil test and take tissue samples to build up a clear

picture of how the farm is performing and what can be done to achieve more from it. “We've introduced GPS and are bringing in variable rate applications,” explains Neil. “Using technology, we want to look at the finer details to achieve incremental gains that'll allow us to maximise returns.”

“Last year was the first time we really analysed the incoming crop which demonstrated various yields that weren't necessarily high enough, so we want to push these to achieve 9-10t/ha or more. But having assessed where things are, this means we can now push over the next few years to see what we can accomplish,” he says.

In terms of investment, the farm was already kitted out with a full contingent of machinery including a combine. Recently ▶



*Although the farm was previously ploughed and heavily cultivated, Kevin Bell has moved to shallow cultivations using a low disturbance sub-soiler and a disc drill.*

## iFarm trials

Kevin Bell's biggest challenge is to push yields up while keeping a watchful eye on growing costs, so his Agrii iFarm trials programme is designed to cover a lot of bases all focused on identifying where efficiency gains can be made in the business.

Being close to the established iFarm run by the Boyd family at John Boyd Farms has already helped provide insight and information with regard to cultivations, varieties and disease control which are informing decisions in his own crop production. “These are challenging times for all involved in farming, so the more we can collaborate and share knowledge, the better it is for everybody,” explains Kevin.

“As a relatively new entrant to agriculture, I'm trying hard to do things correctly using data, investing properly in the crops, doing the right things at the right times and keeping a record of everything so we know what works and what doesn't.”

“We rely a lot on Neil and Agrii's expertise regarding our agronomy and overall management and being an iFarm will play a vital role in helping us to fine-tune our approach as well as, hopefully, providing valuable knowledge for other producers.”

Neil Harper says variety selection, use of soil phosphate activation technology and the role of bio-solutions are all on the cards for the location, alongside evaluation of existing and new fungicides.

“Variety choice is the starting point for all production systems and, being fully focused on milling wheat, this is key for Kevin.

“Crusoe, KWS Zyatt and KWS Extase have been grown successfully to date, but there are new options coming through and we have to

keep on top of these and see how they could work in Kevin's system,” says Neil.

“Although, P and K indices haven't been a problem in recent years, we also want to see if we can make the P work harder on the unit, so we'll be trialling Agrii Start Release soil phosphate activator to make more of this available to plants without adding more into the system.”

Agrii trials have shown bio-solutions can play a vital role early in the season in promoting plant health and increasing green area ahead of fungicide use so the following chemistry can be as efficient as possible, he explains.

“In particular, we want to see if application of peptides to stimulate a hypo sensitive response early on can give plants more 'fight', so we can move to a more nutrition focused approach at TO rather than simply relying on fungicides.”

But existing fungicide options and new chemistry will also come under the spotlight, comments Neil. “One of the advantages of the iFarm approach is we can use full field splits to try out new actives coming down the tracks. So for example, at Kevin's we're looking at Bayer's Iblon (isoflucypram) technology this year and then probably Syngenta's Adepidyne (pydiflumetofen) next season.

“But we don't want to use new chemistry just for the sake of it. Crusoe is a big variety on this farm and the main problem with that is its brown rust resistance, but septoria is less of an issue,” he says.

While many of the new fungicides control brown rust, they're focused primarily on septoria control, explains Neil. “So we want to be sure of their efficacy on brown rust in this location before we change things around too much.

“It's a question of matching variety with



*Kevin Bell relies on Neil Harper's and Agrii's expertise regarding his agronomy and overall management and hopes that being an iFarm will play a vital role in helping him to fine-tune his approach.*

available markets and then building the right management approach around it. That's the real beauty of the iFarm approach,” he says.

“We can look at all of these factors to produce the best formula for an individual enterprise and then share what we've found, so more local growers can benefit as well as the knowledge gained contributing to the national picture.”



*Crusoe, KWS Zyatt and KWS Extase have been grown successfully on farm to date, but there are new options coming through that may be introduced to the system through Agrii iFarm trials.*



Agrii agronomist, Neil Harper, has been integral to helping make changes on the farm and provides technical expertise required to aid in making the business profitable.

► he's purchased a larger and heavier 12m roller to help achieve better consolidation and reduce reliance on slug pellets. He's also invested in a new fertiliser spreader with a built-in weigh cell to optimise application. "We don't want to be putting extra money across fields where it's not actually required," he says.

With this in mind, although Kevin applies granular fertiliser, he doesn't want wastage around the edge of the field and so covers the outer 6m with liquid fertiliser instead. "It's these little areas of attention to detail that can help us to maximise returns from every inch of ground."

## Benchmarking

The pair also want to determine the baseline organic matter levels in the soil to help set a benchmark to work from in future. "My uncle wasn't into computers, so inputs such as fertiliser weren't drawn up with digital plans, but we now have everything recorded on spreadsheets to allow us to plan," says Kevin.

If they can't make an area of the farm profitable, the next step is to assess the potential for options from the Sustainable Farming Incentive. "We might potentially bring in cover or catch crops with SFI, so this all links together to helping

achieve the maximum from each hectare. But we'll only take land out of production if SFI is cost-effective, and it has to be done in harmony with the business to allow it to be profitable."

Although Kevin has left his career in engineering behind, this hasn't stopped him solving problems on the farm using these skills. One instance is where he designed a reinforced steel plate to fit on the outside wheels of his Horsch Sprinter to prevent it always sustaining punctures.

He's also designed a device to go on the grain bucket to avoid spills and wastage.

"When loading from the flat store, because I was a novice, I'd push the bucket into the pile a little too hard causing the grain to spill over the top into the forklift arm, so I created a device a bit like a snow plough so the grain now spills down the sides of the bucket missing the arm entirely."

Part of Kevin's drive to learn and explore the most effective management strategies has been by becoming an Agrii iFarm for the first time in 2023. "This is part of the overall aim to improve profitability and leave the farm in the best condition possible for future generations." ■



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## Sustainable Solutions

### The leading agronomy development network

Extending from the tip of Cornwall to the Black Isle, north of Inverness, iFarms are part of the country's most comprehensive arable agronomy development network.

Hosted by forward-thinking growers, the network undertakes a range of practical trials and demonstrations overseen by Agrii agronomists in parallel with detailed scientific research delivered by R&D teams at Agrii's six principal Technology Centres.

Each of the 18 main iFarms has its own unique set of conditions, requirements and challenges which are reflected in the trial work undertaken and solutions explored and developed.

The current programme includes fully-replicated national and regional trials as well as field-scale demonstrations with the widest possible range of winter and spring wheat, barley, oats, rye, oilseed rape and maize varieties.

Specific studies are also conducted with a broad range of integrated crop management strategies including pest, disease and weed management, macro and micro-nutrition approaches,



and tillage regimes; cover, companion and alternative cropping options; and a variety of biological, soil improvement and environmental land management opportunities.

A full programme of meetings throughout the year and summer open days give growers the chance to experience the latest iFarm and Technology Centre work first hand — share in their most-up-to-date findings while discussing innovative agronomic thinking in thoroughly local contexts. Don't miss opportunities from the network this season — scan the QR code below to explore what's happening where and when, and link to 'invitation-only' events which might be of interest.

