

Greenlight for seamless data transfer?



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Innovation Digital direction

Over the past 20 years, Muddy Boots has had a leading role in developing crop-recording and supply-chain software. CPM looks closely at what’s on offer and what’s in store from its flagship on-farm product Greenlight Grower Management.

By Tom Allen-Stevens

Greenlight Grower Management is currently used globally across 13M ha of arable land to capture crop information. In the UK, it covers 7.7M ha with around 80% of agronomists and as many as half of UK arable farms that have a dedicated crop-recording package using it, says Jonathan Evans, managing director of Muddy Boots Software. “Our history is that we’ve always been regarded as the agronomists’ product. But in recent years developments have focused on the farmer, demonstrable by the large numbers of growers that are adopting the platform.”

The company’s come a long way since it was set up as a standalone business more than 20 years ago — it now has 120 employees working across five continents and it’s a leading player in supply-chain software, working with some of the industry’s biggest brands, not just in the UK, but internationally.

Agronomists’ tool

This all started with tools for UK agronomists, however. “The original software was developed by agronomy business Technicrop. We wanted software that was easy for agronomists to use to make spray recommendations so developed Cropwalker as a PC-based package,” continues Jonathan.

“In the early days, the agronomist took around a large briefcase that contained a laptop and a printer. But we yearned for something more mobile.”

When Apple developed the first iPhones, it became clear that a web-based version, that could be constantly updated and would work over any number of platforms and devices, was the way to go. Greenlight Grower Management was developed and launched in 2012, a combined platform that gradually took over from both Cropwalker and FM, the farmer version of the software.

“Our sights were set on connecting

agriculture with the food industry, predicated by the food safety issues which presented challenges to the whole supply chain. That was the vision we had early on that led us into developing solutions for the broader industry.”

The capability for data to be seamless and transfer effortlessly has always been a key aim for Muddy Boots and carries into Greenlight, says Jonathan. “That’s not just about bringing farmers easy-to-use tools that help them manage their business, but also about integrating the farm into the supply chain. The ultimate aims are better outcomes for the farmer, better assurance and transparency for the consumer and better safeguards for the environment. But within these it’s crucial the grower retains control over access and permissions to their data.” He recognises data transfer between platforms remains a problem for the industry to overcome but feels Muddy Boots has taken a big step in the right direction.

In April this year, the company was acquired by Telus, a communications and information technology corporation that’s strong in North America and Asia Pacific.

One of Muddy Boots new sister companies is AgIntegrated, a leading precision farming outfit, based in the US. This has developed Onsite, a suite of APIs (application programming interfaces) designed specifically to connect different machines, software and platforms.

“Being part of Telus allows Muddy Boots to embark on a much bigger integrated journey in agriculture, joining up a disconnected industry and bringing growers into a new phase of digital farming. That’s not just linking to existing machines and platforms, but also to new sensors and



Muddy Boots developed Cropwalker as a PC-based package, one of the first to be adapted for a Tablet PC.

devices, the internet of things and laboratories. It's pretty close to being a silver-bullet solution to a problem that has dogged the industry for years," says Jonathan.

So what's available today from Greenlight Grower Management? "The functionality has expanded significantly since launch, largely in line with user feedback and with technology demands coming through from our food sector clients and from compliance bodies," explains senior business



Interoperability is Paul Thomas' biggest priority.

development manager Paul Thomas.

Setup is designed to be as simple and intuitive as possible, he says. Once a site is registered, you can add fields and crops using the integrated mapping tool, which also calculates field areas. "You can now input costs and prices for all crop input purchases and activities to help generate gross margin and other financial reports."

You can also invite others to access your data, edit activity and share plans. "The most common relationship here is with your agronomist and spray contractor. If your agronomist uses Greenlight, they can share your information they hold with you, which will help you set up your site. You can then edit to put in correct field sizes and boundaries, for example, that your agronomist will see."

Stock monitoring

A feature recently added is Stocks. "This was one of the missing pieces of functionality that was in Cropwalker," notes Paul. It allows you set up a store, detail deliveries of agchem inputs (seed and fertiliser will be added early in 2021) and keep check of stock. Spray applications automatically draw from the store you choose and you can make manual adjustments following audits.



Jonathan Evans is keen to enable farms to seamlessly integrate and transfer data with the rest of the food chain.

So what about interoperability with other packages and platforms? Growers who use Omnia can benefit from two-way data transfer, and that brings in other platforms with which Omnia has two-way compatibility. Greenlight can take data from MySOYL and Rhiza, and two-way compatibility is "coming soon", says Paul. "The Telus acquisition is set to accelerate transfer between data platforms, and on the precision and machinery sides in particular."

AgIntegrated is the key here, he says. ▶

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Greenlight Grower Management – key features

Integrated satellite mapping lets you accurately plot individual field and crop boundaries and record geolocated pest and disease inspections directly on the field in question. You can also view your fields or crops as a map.

The mobile app is available for iPhones and iPads (iOS) and lets you work while on the move (even without a signal). The iPhone's camera can be used to upload photographic evidence of any issues as you encounter them.

Inspections can be geo-located to highlight any action that needs to be taken in the field, as you uncover them, such as tree removal or irrigation pipe repair. Observations such as growth stage, tiller count, weed or disease level can be added.

Sharing your site allows other users, such as agronomists and contractors, to edit or add plans and activities and/or view reports. You decide the level of access and permissions and

you can also use it to help generate and manage farm activity carried out by staff.

Weather forecasting gives you a week's weather summary, with hourly rain, temperature and wind speed detail for each day.

Regulatory checks are carried out on agchem use and agronomy plans to ensure compliance with legislative approvals. RB209 and NMax are bolted into the platform. Recording soil analysis results demonstrates fertiliser compliance and builds a library of all farm activity and applications for full reporting.

Integrated services with third party APIs bring in other features such as advanced reporting, and direct input ordering options.

Financials, including input spend and gross margins, can be planned and managed. Drill down to view costs by input or activity across fields, crops or the whole farm. Field activity and machinery costings can also be documented.

Templates allow you to quickly enter frequently



Ease of use and ease of sharing are two big plus points for Greenlight.

used agchem inputs. You can also set defaults for water volume, machinery and operator.

Cost starts at £255/yr for a base package of less than 500ha. Add auditing and that brings it up to £395/yr, with £90 extra per additional user. The agronomist package is £580/yr. There's no setup fee and users get a 30-day free trial. Data can be imported over from a competitor package for a small fee, depending on level of work involved.

► Onsite works as an independent hub for which manufacturers develop APIs, which allows for seamless transfer between the likes of John Deere, Case IH, New Holland, AGCO and Climate Fieldview, for example. "A Greenlight API with AgIntegrated is top priority," says Paul.

The next tier of data transfer will be disease support and lab services, allowing

direct import from NRM and Lancrop soil analyses, for example. A link with xarvio is "a work in progress," he adds.

"What we hear from customers time and again, especially those new to crop-recording packages, is that they like Greenlight for its ease of use and any-place operability — just two clicks of a button and you've shared your data with your

agronomist, for example. We also pride ourselves on our 'customer delighters' — user requests are regularly reviewed and prioritised based on popularity. Stocks is an example of this.

"Our development capacity has increased now we're part of Telus, and that's the really exciting part about where we're at with Greenlight. We've always been at the

Easy move to slick new system

It was Henry Richardson, assistant farm manager at GH Hoyles, based near Spalding, Lincs, who made the move to shift the business over to Greenlight. "I spent a fair bit of time in the office over the winter and couldn't get on with our previous system, so thought I'd take a look at Greenlight after hearing good reports."

Within a couple of hours, he'd set it up. "We've been using Omnia since 2016 and I just synced all the fields and crops into Greenlight — it was very simple. But what surprised me was how easy it was to use. You move around a few screens, watch some of the video tutorials, and before you know it, you feel you got it sussed."

But with around 700ha of combinable crops, potatoes, mustard, vining peas and sugar beet on Grade 1 silt, would it manage the fairly complex arable operation? "With Greenlight being so intuitive, I've found entering our data extremely easy, however complex the cropping. I've added cover crops on fields only for a month, for example," notes Henry.

"Also you can share jobs and plans easily and

everyone can access them on an iPad — no need for paper, although we haven't moved away from paper yet. The app is good — if you're in a field with an agronomist, you can bring up records of what's been applied and when. Then if you see a patch of yellow rust, you can geo-map it."

But some things didn't go so well. "We do a lot of farm trials, using coded chemicals or new varieties that don't come up in the drop-down list. So I raised this with Muddy Boots and they gave us a workaround — adding 'trial' as a chemical and putting in the new varieties for us. There always seems to be someone at the end of a phone, and you get the impression there's a team of coders beavering away in the background," he notes.

"Preparing costings can be a pain, and plans for some operations, especially over a number of fields, can be tedious. But often it's a case of finding a workaround. Potato planting, for example, involves a number of different operations and chemical applications that can be a mind bend to enter as a job. But we got round it by putting



Henry Richardson found Greenlight intuitive and within a couple of hours felt he'd got it sussed.

the planting tractor in as a single-operation separate entity."

Variable-rate plans are managed in Omnia, and Henry likes the compatibility and "slick" data transfer between the two packages. "The price is also good — almost half what we paid before — for a system that's far less clunky."

Digital Direction

As arable farms progress towards a digital future, it can be difficult to know which forms of data generation, capture and analysis provide a really worthwhile benefit to the business, and which are costly and time-wasting distractions. CPM is working with some of the industry's leading companies in this area to bring growers some Digital Direction. These articles track the significant steps on the journey towards the data-enabled farm, and also explain and profile the technologies involved.

CPM would like to thank Muddy Boots for sponsoring this Digital Direction article and for providing privileged access to staff and material used to help bring it together.

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An API with AgIntegrated Onsite will bring data from the likes of John Deere, Case IH, New Holland, AGCO and Climate Fieldview into Greenlight.

forefront of developments in this sector. Technological advances now available and resources we have through Telus will propel



There's two-way data transfer with Omnia, while agronomists using Greenlight can share information they hold, helping growers set up their site.

us forward and you'll see those come through over the next 12 months," assures Paul.

Jon echoes this. "Through Greenlight we're committed to working with farmers and passionate about helping them progress. We want them to take full advantage of new technologies and work towards a more sustainable future that goes well beyond the farm gate. The systems we're putting in place gives farmers greater recognition right the way through the supply chain and brings them closer to the consumer. It's what we set out 20 years ago to achieve, and our vision's never been closer to becoming reality." ■



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