AB LINE 2020

RVT
Rea Valley Tractors

RVT PRECISION
CROPCARE FARMING AMENITY RVT RTK

Sprayer Special

JOHN DEERE MAZZOTTI Ag Leader®

Moon Landing MAIZE MAZE Showcases Precision Farming Capabilities

First Mazzotti Self-Propelled Sprayer Sold in the UK

SPUD TECH Rate Controllers, Yield Mapping Section Control

CONTENTS

WELCOME

Welcome to the latest edition of the AB Line, our Precision Farming magazine keeping you up to date with the latest developments in the world of Precision Agriculture.

2019 has proved again to be a hectic year, with constant new features being developed and released as well as new hardware entering the market bringing new efficiencies to the industry.

Autotrac was first brought to the market in 2002 and now GPS automated steering seems to be pretty much standard with the majority of new machines now coming Autosteer ready from the factory. People are now looking into what other efficiencies that GPS technology can bring to their business and a lot of this will be directed down the data route, by this we mean making more informed agronomic decisions based on actual factual data from the field. With this in mind you will see a lot more emphasis into software platforms such as the John Deere Operations Centre which is a hub for collecting and managing data, giving you the tools to make actionable decisions, more of this can be found throughout the magazine.

> "Our new website is dedicated to all things Precision"

RVTPrecision.com

Keep up-to-date with new developments at RVTPrecision.com

Our new website dedicated to all things Precision is now up and running, this will be a great platform to keep up-to-date with what is going on in the world of precision farming, the majority of media used on the site is from our own projects, have a tour around ***RVTPrecision.com.***

If you have any questions or need further information please contact RVT Precision on 01743 289100.

AGRITECHNICA REVIEW

RVT Precision attended Agritechnica, Mannheim in November 2019 and this is a short review of John Deere's exciting developments in new Future Technology.

What is clear is once the legislation and legalities are finalised this technology is right around the corner. It is an exciting time for RVT to be at the forefront of this revolution.

> "The future is now"

EAUTOPOWR TRANSMISSION

The first continuously variable transmission with an electro-mechanical power split. The drive is more efficient and wear-free and it has the provision of up to 100kW of electrical power for external consumption, resulting in a more efficient transmission of tractive power.

Find out more on page 6.

AUTONOMOUS ELECTRIC TRACTOR

This tractor has a total output of 500kW. Flexible ballasting from 5 to 15 tonnes is possible, depending on the application, to help reduce soil compaction. The 'JOKER' as it is named has no operating emissions and noise levels are extremely low. Further advantages include low wear and maintenance costs.

AUTONOMOUS SPRAYER

Has a 560-litre spray tank, with high ground clearance of 1.9m and four-wheel steering make it extremely versatile, while the tracks minimise ground pressure and greatly extend the operating window.

> "Increase productivity over 30%"

SEMI-AUTONOMOUS TRACTOR

Drives semi-autonomously and is equipped with an integrated crop sprayer. Using a built-in camera, it is possible to work in row crops. Filling the sprayer tank takes place fully automatically at a filling station, so the user is not exposed to pesticides. This is designed to reduce costs and increase productivity by over 30 per cent.

ARTIFICIAL INTELLIGENCE

BLUE RIVER TECHNOLOGY

See and Spray technology, high-resolution cameras capture 20 images per second, artificial intelligence recognises the difference between cultivated plants and weeds so that individual plants can be specifically treated reducing the use of pesticides.

COMMAND CAB

Joystick control, touchscreen display and networking of all machine components, John Deere presents a completely new operating concept. By integrating real-time weather data, individual pre-settings and job management procedures, the cab becomes the command centre for agricultural operations.

LARGE SPRAYING DRONE (VOLODRONE)

The large drone developed jointly by John Deere and Volocopter has a diameter of 9.2m and is powered by 18 rotors. Different devices can be mounted on the frame, depending on the application. For crop protection, the large drone is equipped with two liquid tanks, a pump and a spray bar. Thanks to the low flying height, very large area coverage of up to 6ha/hr can be achieved.

NEW JOHN DEERE AUTOSETUP SYSTEM

SET UP YOUR TRACTOR AND IMPLEMENT WITH ONE CLICK

John Deere's new AutoSetup system enables farmers and contractors to manage and store all their tractor and implement settings in the cloud.

Operators can easily retrieve the settings when they enter a field, so lengthy setups for machine and field specific settings are only necessary once and further adjustments are no longer needed. The universal storage of cloud based data is unique in agriculture and is not yet possible even in the automotive industry.

Setups of complete tractor and implement combinations are very time consuming and require well trained operators. For complex planting machinery for example, up to 60 display clicks may be necessary, which can mean a loss of productive working time. John Deere AutoSetup allows the operator to activate all settings with one click, once the complete machine profiles are stored. The preplanned job appears automatically on the cab display when the machine enters a field, so all the operator has to do is confirm the details.

All data is also available in the John Deere Operations Centre web portal and so can be used for the entire machinery fleet. In addition, the data is stored in a cloud-based system, similar to the Apple iCloud, which is a new feature in the agricultural industry.

AutoSetup supports the following settings:

- tractor settings such as PTO speed, hitch and hydraulic valves;
- implement settings such as sprayer boom height and nozzle selection or slurry tanker tyre pressure;
- agronomic data such as field boundaries, guidance lines and application maps (ISO-XML is supported through the John Deere Operations Centre);
- documentation data such as fertiliser and crop protection applications.

Moreover, AutoSetup supports farm and fleet managers by enabling them to organise all jobs in advance, in the office, including application rates and maps plus all tractor and implement settings. The operator in the field can then change settings and adapt them to working conditions if necessary. This allows experienced drivers to optimise the applications and support other operators.

Due to the open system architecture and cloud database, all ISOBUS compatible implements can also be connected to AutoSetup. Currently the system supports Kotte slurry tankers and John Deere trailed sprayers, but other implements can easily be adapted. Manufacturers are invited to the John Deere stand at Agritechnica 2019 in November to check AutoSetup connectivity.

AutoSetup will be available on selected John Deere tractors in the second half of 2020, and it can be retrofitted to models equipped with the latest Generation 4 display. Both the software update required for the retrofit system and the John Deere Operations Centre are free of charge.

NEW STEPLESS TRANSMISSION IS A WORLD FIRST

John Deere, in cooperation with Joskin, has unveiled the world's first continuously variable transmission with an electro-mechanical power split, including an implement interface. This completely new concept has been awarded the only gold medal by the Agritechnica Innovation Commission jury.

On the new eAutoPowr transmission, John Deere has completely replaced the hydraulic components with an electric power path. The transmission's two brushless electric motors are virtually wear-free and powertrain durability is said to exceed that of any other similar concept previously offered by the industry. In addition, maintenance costs are significantly lower.

Another advantage of eAutoPowr is its increased efficiency, especially in the partial load range. As a result, the already industry leading fuel efficiency of 8R Series tractors could be increased even further. Additional operator benefits include very precise speed regulation and better acceleration.

An integrated power management system ensures the transmission of high engine power without overloading the mechanical drivetrain. Clutch wear is permanently monitored and the clutch is automatically calibrated.

For driving implements and trailers eAutoPowr can provide up to 100kW of electrical power, with either 700V direct current (DC) or 480V variable frequency three-phase alternating current (AC) available. This means eAutoPowr is the first transmission to offer a cost-effective and efficient electrification solution for intelligent tractor-implement combinations, by merging power generation and propulsion in one system.

To demonstrate this, John Deere and Joskin have jointly developed a special tractor and slurry tanker combination. The 25.5m^3 slurry tanker is equipped with two drive axles powered by a 100kW electric motor, which is operated via a standard AEF ISO socket. The drive axles provide a significant increase in traction and reduction in wheelslip to help avoid soil damage.

This additional drive capacity can also be used for other implements and trailers. The technology allows smaller, lighter tractors to pull wider implements and injectors, for example, which increases productivity while reducing investment costs.

NEW
EXPERT ALERTS !!

Expert alerts are a new unique system that can predict certain upcoming issues before they have a negative impact or cause collateral damage on your Tractor, Combine, Forage Harvester.

AUTOMATIC DIAGNOSTICS

With Diagnostic and repair information being generated automatically, Rea Valley Tractors (RVT) service Technicians can react more quickly reducing downtime and increasing UPTIME.

A small team monitor the alerts being generated from connected machines and pass on any high priority expert alerts or service alerts to the RVT service department where the customer can be contacted on a proactive basis to arrange a service or repair of the machine.

EXPERT ALERTS

Increase machinery UPTIME!

Here is an example of a fault below which RVT where able to pro-actively repair during the busy Harvest season before the loss of functionality of the tractor:

Machine
Model-Serial Number: 6155R - 1L06155RCJN924780
Engine Serial Number:
Engine Hours: 1737.00
Last Known Location: 52.721139,-2.317278

Expert Alert Information
Location: Shrewsbury - 310524

Alert Name: 6R FT4 WAS Harness Fault

Alert Description: John Deere has been monitoring JDLink machine data for machines setting DTC(s): CCU or XSC 522451.xx, 523826.xx, XMC or XSC 3841.xx, 3842.xx. These DTCs indicate a potential failure of wheel angle sensor (WAS) harness. Failure to address this issue could lead to complete loss or automated functions: MFWD, differential lock engagement / disengagement and AutoTrac guidance.

Alert Details:
XSC - 523789.5 - YELLOW XSC 523789.05 Wheel angle sensor circuit fault. - Check connection. Hours - 1736.7 - 21 Sep 2019, 18:18:42

Recommended Action:
Contact customer as soon as possible to schedule resolution.

In this example Expert Alert an electrical fault was detected and potential for failure of a wheel sensor could have lead to failure of the differential lock and AutoTrac guidance.

The tractor driver was informed of the potential failure that was about to occur and the tractor was fixed before any other damage was created from this electrical fault, reducing downtime and increasing the uptime of the machine benefiting overall business efficiency.

The ATU300 compared to the previous version has a smaller motor, reduced noise level and a better feel to the steering wheel itself. Additional improvements include a weather resistant design, faster line acquisition, improved diagnostics and easy to use calibration for quicker setup. John Deere have extended the promotion they introduced at the start of the year for this ATU300, please get in touch if you would like further information.

ATU Focus

Peter runs his own contracting business deep in the heart of Wales, and currently operates Massey and Valtra tractors. His main job is Lime Spreading in which Peter wanted to improve accuracy of application. RVT fitted an ATU wheel to his Massey Tractor with a 4240 display and SF6000, RVT also added wiring and brackets to his Valtra so the guidance kit can be easily moved from one machine to the other. Apart from the improved accuracy Peter has also found that when Lime Spreading at night, when there is usually very little wind and usually the Lime dust would make it difficult to see where he should be driving, with the new system it takes all the guess work out and reduces overlaps at the same time.

Peter Price

"With the new system it takes all the guess work out and reduces overlaps"

ATU 300 is approved on over 600 different equipment platforms and is compatible with many agricultural vehicles.

NEW AUTOTRAC UNIVERSAL 300 PACKAGE

AUTOMATED STEERING FOR MIXED FLEETS

Approved for over 600 models from John Deere and other brands.

AVAILABLE FOR OVER 600 MODELS

JOHN DEERE

NOTHING RUNS LIKE A DEERE

YOUR BENEFIT

- Premium guidance at very attractive fixed price
- Significant productivity increase
- Savings on fuel, fertilizer and chemicals
- Precise work results also in low visibility conditions
- Less operator stress

OPTIONAL UPGRADES

- SF1 to SF3
- SF3 to RTK

RVT PRECISION

CROPCARE FARMING AMENITY RVT RTK

StarFire 6000 – SF1 | Gen4 4240 Display with AutoTrac Activation | AutoTrac Universal 300 Steering Kit

Call RVT Precision on 01743 289100 or email *precisionfarming@reavalleytractors.com*

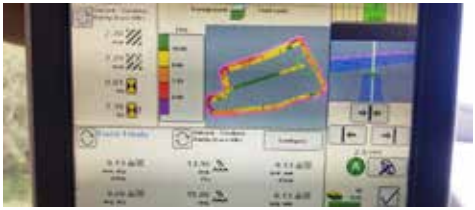
INTEGRATED GREENSTAR INSTALLATIONS

INTEGRATED YIELD MAPPING AND AUTOSTEER USING GREENSTAR

RVT Precision have done a couple of Greenstar installations into Combines that integrate fully with other makes of machines such as Case and Claas, this means that customers can yield map through the display and also engage the Autosteer using the resume switch on the joystick.

Call the RVT Precision Team on 01743 289100 to find out how Greenstar can be fitted to your combine.

> "Utilise your existing Greenstar Equipment"



RVT SPRAYER SPECIALIST

Charlie Henderson

Charlie is our Sprayer Specialist. His role is to support users of sprayers and sprayer technology supplied by RVT. He helps in the selection of the correct machine or technology, assist with PDI & set-up, ensure correct delivery, installation and operator training and continue to support machines throughout their life cycle including NSTS testing.

Charlie studied Agriculture at Rodbaston College and then went on to work for a local Ag Contractor. Since 2015 he has been a Senior Sprayer Operator for a local grower, using a variety of GreenStar controlled self propelled and trailed sprayers all using the latest technology.

You can contact Charlie on 07535 021535
charliehenderson@reavalleytractors.com

Top Tips

Get the most out of your sprayer and maximise efficiency...

1.

Always make sure your machine is in tip top shape and ready to go.

We all know how frustrating it is when the weather is against you and pressures are rising. As soon as that good weather arrives your sprayer needs to be working to its full potential. Weather it's a damaged nozzle body or a leaking air fitting, get it fixed. Reduce your down time and fix small issues that can easily be resolved on wet days.

Always carry basic spares, i.e. nozzle bodies, spare nozzles, air fittings and airline.

2.

Nozzle selection is key.

The price of chemical seems to rise year on year, leading to a serious amount of value going through your machine. The selection of nozzles you have is probably the most important part on your machine. Always plan what you are trying to achieve by looking at nozzle charts, look at spraying pressures combined with forward speed to work out the nozzle you need to be using for that application.

Check out a nozzle calculator for an idea on what to use.

3.

Machine offsets and section control shutoffs should be checked at least once a season to insure you are not under/overdosing valuable crops.

Achieve this by going through the equipment manager on your machine set up page, which requires only a handful of measurements from the machine. A simple cane test can be done to set up the overlaps/skips of the section control.

Reduce staggered growth stages of crops on headlands when the section control is switched on and off.

4.

Talk to your neighbours and assess your surroundings.

Let your neighbours know your intentions. If there's a sensitive crop over the hedge to where your spraying pesticide, reduced your pressure to increase drop size to reduce drift or leave a buffer zone strip to play it safe.

5.

Always use appropriate PPE and take your time.

Too many times people rush around and that's when accidents happen, especially when incorporating chemical through the induction hopper into the sprayer. All it takes is for something to splash back and get in your eyes. Always take the time to protect yourself and others, with face shields, coveralls, gloves and respirators when using powders.

Keep the spray shed clean and tidy and free from any obstacles on the floor.

Sprayer Focus

Mr Phillips farms 400 acres plus another 400 acres for a neighbour and took delivery of his 24m M732i in February of 2019 replacing a 24m Gem. Stuart runs two John Deere 6155R's, one of these he uses on the sprayer and likes how the ISOBUS works in sequence with the 4600 display in his tractor, along with the extended monitor.

Mr Phillips says that "the local back up from RVT and the Precision Farming team is great, along with the technology that comes with the machine, such as the section control and TerrainControl Pro boom levelling, it makes the job so much easier. The induction hopper and filling station is very operator friendly, which allows for quick filling of the machine, leading to less downtime and more time in the field spraying."

Stuart is looking into optimising all his data collected further, by having a WDT fitted to one of his tractors, which will allow him to make more use of data generated from his applications.

Mr Phillips, Moreton Grange, Newport

"Less Downtime and more time in the field spraying"

Sprayer Focus

A farmer near Shrewsbury took delivery of his Tri Fold 32m John Deere R944i in 2018 which came equipped with 8 sections all working off section control through the Gen 4 Command Centre and Starfire 6000 receiver. The option of having TerrainControl Pro also allowed them to concentrate on the job in hand. The 1000Ltr/min fills the sprayer in no time, along with the ActivePause option, this allows chemical to be incorporated into the main solution tank whilst pausing the main feed into the tank, allowing plenty of time to incorporate the chemical needed.

"ActivePause option allows chemical to be incorporated into the main solution tank whilst pausing the main feed"

AMENITY

TRANSFORMING A JOHN DEERE PROGATOR HD200

The precision farming team are transforming a John Deere ProGator HD200 with a spray pack on, into individual section control running through a Gen 4 4640 screen with a Greenstar 6000 receiver equipped with RTK. The Gator is also going to be fitted with an ATU 300 to look after the steering side of the operation.

The aim is to demonstrate the capabilities of section control and guidance not just to the agricultural sector but also to the amenity sector, such as golf courses.

If you are interested in seeing this machine working or would like more details please contact the Precision Farming team on 01743 289100.

Sprayer Focus

Richard Bruckshaw farms 700 acres of arable including potatoes, OSR and Wheat. The fleet includes three John Deere 6155R tractors, a John Deere T670 combine and a John Deere M732i sprayer.

Richard says,"I always receive excellent backup support from the nearby RVT Shrewsbury depot. This is my second John Deere sprayer and everything that needed fitting after the sale was sorted promptly.

With regard to the usability of the machine I found it very user friendly in general and easy to work. I had the latest TerrainControl Pro retro fitted to my current machine by RVT Precision Farming and it is super.

> **"I like how instant the air shuts off and switches on the sections just at the right time"**

The filling station on the machine is very easy to use and simple to work out, I personally prefer it to one with electric controls. The air shut off sections works incredibly well with the section control. I like how instant the air shuts off and switches on the sections just at the right time. I find the build quality of the sprayer is exceptional, which is essential when spraying potatoes once a week in conditions that vary week after week.

The boom seems to be very strong and copes with the different field situations very well. The data generated from WDT is sent back to MyJohnDeere where I can either view it on a computer or on my phone, having the app on my phone makes it easier to access the data when I'm out of the office either in the yard or in a field. Being able to view everything I've applied to my crops is very handy. The new proportional steering is a feature I would like to see more of, I know RVT have a demo machine with this fitted and will be intrigued to see it, but so far the steering drawbar on my machine has caused me no problems as of yet.

RVT parts backup has always been very reliable on all our John Deere equipment, but we haven't ever needed anything for the sprayer. Combine spares have always been on the shelf and fitted promptly by a RVT mechanic out of the workshop, I can highly recommend the RVT Aftersales service."

Richard Bruckshaw of Cotwall Farm, High Ercall

Larger range of Nozzles and Sprayer parts now in stock!

Contact RVT Parts on 01743 289104

Plus 10% OFF

on sprayer nozzles when you have a NSTS sprayer test on your sprayer!

Sprayer Focus

James and Alastair ,Bolas House Farm, 120ha potatoes, 380ha cereals using contract spraying 500ha/year, in the fleet has two John Deere 6130R, a 6250R, a 6125R, and John Deere C670i combine.

What made you buy a John Deere sprayer:

James says, "I purchased the John Deere R952i sprayer for the compatibility with the MyJohnDeere software which is a big feature for us, the live data and easy to use prescription maps along with understanding the data recorded. The main feature for buying the R952i was the PowrSpray feature for accurate rate control.

With regard to the usability of the PowrSpray, boom levelling and power station the controls are very easy to use and set up is very straight forward. The PowrSpray gives a very crisp, instant turn off and switch on at just the right moment. The boom levelling is very good and the ActivePause feature really has revolutionised filling the tank, never again will there be pressured into getting the chemical into the tank before it stops filling.

The PowrSpray is the best feature for us on the sprayer with the accurate rate control, along with the TwinSelect nozzles too, working alongside the section control, automatically changing nozzle size depending on speed and pressure is brilliant when looking back at the as applied maps on MyJohnDeere. We use all the data generated from the WDT for our field traceability. We also use it for our accurate budgeting on a field by field basis.

RVT always offer good backup from both departments Service and Parts, everything is always available the next day if not on the day."

James and Alastair Heath, Bolas House Farm

> **"The PowrSpray is the best feature for us on the sprayer with the accurate rate control"**

RVT JOHN DEERE M740i SPRAYER DEMONSTRATOR

AVAILABLE ON DEMO

RVT have a trailed M740i demonstrator coupled up with a FarmSight demo 6155R available for anyone interested in a new trailed sprayer for the upcoming season.

The M740i comes equipped with a 24m steel boom with 8 sections. The air shut off, along with the pressure recirculation offers the machine a very fast and precise turn on/off when needed to. Working in conjunction with the Section Control in the Gen4 Command Centre and StarFire 6000 receiver when the sprayer senses it's going to overlap or it needs to be switched on, it is done with ease and precision. The machine is fitted with 420/85 R38 tyres on a 180/210cm axle.

The new Proportional steering on the drawbar is a big improvement from previous steering drawbar machines, in operation, it is a lot smoother when the steering is activated, whereas before it could be quite sharp and vicious when activated. This will help on strain on the machine, such as the yaw of the boom movement and other components that will move when the steering is activated.

The solution spray pump can achieve 280Lts/min output delivered from the hydraulic drive which comes from the tractor's hydraulics. The machine is fitted with AutoFill and AutoDilute, allowing less stress to occur when filling the machine and when washing out. With the option to put a figure into the machine, and to not over fill, this means there is no chance of over filling the sprayer when your mind is busy concentrating on incorporating chemical into it. The AutoDilute feature lets you automatically dilute any left-over concentrated chemical to a known concentrate, whilst still spraying. It talks you through step by step the sprayer wash out and what other wash out options are available.

TerrainControl Pro with two ultrasonic Norac sensors are fitted, one on each side of the boom, allowing the boom to take care of itself whilst in work mode, which controls the height and roll of the boom, in work and out of work, allowing you to concentrate on what's going on in the cab. We have also specified the machine with two sets of nozzles, which are 03 and 04 flat fans, fitted on a 5 way nozzle holder which allows 5 nozzles to be fitted to the machine, allowing the perfect nozzle to be selected depending on what the application requires.

DEMO THIS!

M740i

Please call RVT Precision on 01743 289100 if you would like to demo the RVT John Deere M740i Sprayer.

PIN CODE PROTECTION

A stand out part of the new hardware section should be the fact that we can add PIN code protection to all SF6000 and Gen4 universal displays, contact ourselves to learn how to do activate it. This means that every time power is removed from the receiver it will then ask for a PIN code to be enter to enable use. The operator can increase the "hours on after shutdown" so that they don't have to keep entering the PIN each time the machine is stopped during the day. If anyone would like some Pin protected stickers for the receivers then get in touch.

STARFIRE 6000 INTEGRATED RECEIVER PROVIDES HIGHER ACCURACY

The John Deere StarFire 6000 Integrated Receiver gives the full functionality of a universal StarFire Receiver, but is fully integrated and theft protected. It expands on the value that precision agriculture operators have come to expect from StarFire products.

ISO Liquid upgrade on Case Gem 3000

Recently the RVT Pecision Farming team upgraded a 20 year old 24m Case Gem 3000 SPS to full ISOBUS control of the boom sections.

RVT Precision got to grips with this machine and soon established where its sections were wired into. The beauty of the ISO LIQUID retro fit is that the same existing joystick and section buttons are still used, and is displayed in the In-Command 800 screen RVT fitted into this machine. The machine previously had six sections, so they reassigned the existing buttons to the correct sections on the machine to the profile in the terminal they fitted. A pressure sensor was also fitted which allows use of "flow with pressure fall back" to give the correct, accurate reading of applied product.

A section control activation is also activated in the customers screen, which gives 100% accuracy when the operator needs to switch off and switch on. When the machine was up and running, RVT then jug tested the nozzles fitted to the machine to make sure they had achieved the right outputs and that the pulses in the flow meter were correct. Nozzle profiles can be made within the profile of the machine, to set pre set target rates, and this also gives you indicators of what droplet size is being achieved at a certain pressure, using a certain nozzle.

The Universal Terminal fitted also runs the mapping side of things, RVT were able to split screen the display which allows viewing of the mapping side of things, whilst also being able to look at important details such as speed, pressure and applied rate.

Mark Glover, Woodseaves

"The beauty of the ISO LIQUID retro fit is that the same existing joystick and section buttons are still used"

THE NEW 4140/50 JOHN DEERE SPRAYER

Introducing for 2020, the brand new John Deere R4140 & R4150 self propelled sprayers. Built for high speed, efficient applications on any scale of farm. Features of these machines include:

- **4000Ltrs and 5000Ltrs polyethene tank sizes available, with 400Lts of clean water storage**
- **24–36m steel booms available over both machines**
- **50kph road speeds –** less down time on the road moving from farm to field, more time spraying.
- **Two levels of auto boom levelling,** TerrainCommandPro and TerrainControlPro. Integrated with the 4640, these systems control the boom movements by using soil mode, crop mode and hybrid mode. TerrainCommandPro will operate the height, roll, VG, and pendulum control, using either 3 or 5 sensors. TerrainControlPro will control height, boom roll and pendulum control, using either 2 or 4 sensors.
- **AutoDilute:** automatic dilution of left-over residual liquid, lowering the concentration down to a known factor. Automatic wash cycles from the cab talk you through the step by step how to achieve this whilst still spraying liquid out of the main tank. This is done by the unique dilution calculator which works out how many steps are needed to achieve a diluted factor; the pump then transfers clean water into the system to start the process. BoomRinse is also another feature which allows you to rinse the booms without diluting the contents of the main solution tank.
- **AirRinse:** An automatic air purging system used to push ant excess liquid left in the machine to either the booms, or to the main tank outlet. This is decided by which ever program is chosen, either Field mode or Farm mode. Air rinse farm mode can achieve an improved dilution rate of up to 721%.
- **SolutionCommand:** Is the unique 12 button key pad for stress free filling. With autofill, you will never worry about filling the machine with too much water, because of the pre set tank volume figure, and with ActivePause, whilst filling chemical into the induction hopper, the only water entering the tank, is the content of the induction hopper, and the clean water that the pump is supplying the hopper. The unique PowrSpray pump allows this to happen due to its direct rate control and its, unique two circuit liquid system. The pump is capable of filling at 1200lts/minute and is capable of spraying at 1000lts/minute.

- **ExactApply:** Individual nozzle section control allows you apply the exact amount of product over a wider range of speeds at a constant pressure. Along with Automatic switching nozzles, it maintains your target rate dependant on speed and pressure, automatically switching between nozzles when needed. Turn compensation is also a feature which comes with this, allowing accurate placement of chemical when going round obstacles such as trees and telegraph poles in field, therefore saving on chemical and not over dosing.
- **Pressure recirculation boom:** delivers chemical to the nozzle when it is needed. Sedimentation blockage is at a minimum because of the constant circulation round the lines. Along with the wide range of John Deere nozzles available to buy means these machines suit the needs for the most demanding of customers, wanting to achieve the perfect application.

AVAILABLE ON DEMO

Rea Valley Tractors holds a demo Mazzotti 3580 self - propelled sprayer. This machine has a 4000Ltrs tank with 24m stainless steel booms fitted to it.

Some of the main features of this machine are:

Hydraulic tracking: 1800cm to 2250cm – adjustable from the cab, this machine is also fitted with 340/85 R46 Alliance row crop tyres.

Seletron spraying system with pressure recirculation enables individual nozzle control. The machine comes equipped with a Gen4 4640 display which runs with the Arag rate controller, along with a StarFire 6000 receiver. If wanting to spray manually, 7 sections are available for manual shut off across the boom.

> "Seletron spraying system with pressure recirculation enables individual nozzle control"

LED work lights across the cab of the machine, including 4 blue LED spot – lights on the boom to help identify blockages or nozzle issues when the sun goes down.

A **hydraulic hose reel** works in conjunction with a centrifugal pump capable of 500Lts/min allows filling of the machine to be increased when on applications such as liquid fertiliser. There is also a piston diaphragm pump which is capable of delivering 335Lts/min into the main solution tank as well. An auto shut off option is also fitted on our machine, so there is no risk of overfilling the machine when back in the yard loading the tank for the next application. There is also the option of bypassing the pumps and filling straight into the tank, via an external pump such as a Honda engine on a bowser.

The boom is fitted with **Norac automatic boom levelling system** consisting of three ultrasonic sensors which controls the height, and VG of the boom, enabling the operator to concentrate with the job in hand and not worry about the boom ride when in work.

50kph road speed is also fitted to this machine, with the ability to set the cruise field speed to a maximum of 18kph when work mode is activated via the cruise control, allowing plenty of forward speed for any type of application.

The use of **Poclain wheel motors and Arag water components** means it is very easy to source parts for this machine, RVT stock a wide range of common spare parts for water systems on sprayers, including nozzles and pipe, and if they don't have it in stock, they can always get it for next day delivery.

Mazzotti Focus

Charlie Henderson RVT Precision Sprayer Specialist has been busy setting up and installing the first Mazzotti self-propelled sprayer sold in the UK to a local customer. This machine is a MAF 3580, with a main tank size of 3,750Ltrs, equipped with a Tri folding 32m boom.

This machine is fitting with Norac auto boom levelling for optimum performance of the machine, along with a Seletron system which enables individual nozzle control giving maximum spraying efficiency and reducing overlaps. The Arag rate controller is worked through a John Deere 4640 display with a StarFire 6000 receiver fitted with RVT RTK. The 4640 also has a premium activation that includes section control and AutoTrac for maximum precision when in operation. The data gathered by the 4640 is sent back in real time to the office via the Wireless Data Transfer (WDT) and is also viewable on the Myoperations app on smart phone.

The machine is capable of reaching 50KPH road speeds meaning less downtime on the road from field to farm and more time in the field spraying.

RVT has a demo Mazzotti which is fitted with a 24m boom for you to try. For more details contact Charlie Henderson on 01743 289100.

"The first Mazzotti self-propelled sprayer sold into the UK"

"50KPH road speeds means less downtime on the roads from field to farm"

IMETOS – PESSL INSTRUMENTS

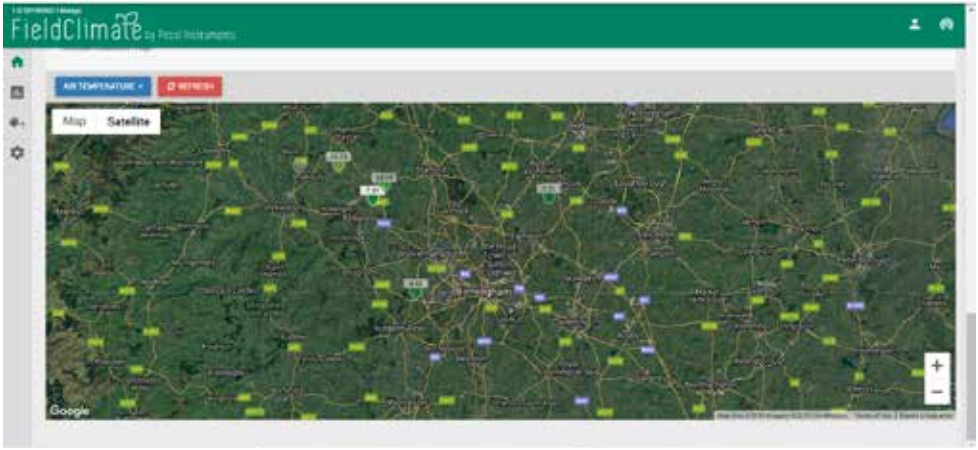
The RVT Precision Farming team can supply and install in field, mobile weather stations to fit your farm business needs. Data is collected from each individual station via a SIM card installed into each station which is then wirelessly recorded and sent to the Field Climate web platform or mobile app. There are several different specifications of weather stations, with one of them being an ECO D3, and with the right specification this station is able to:

- Record precipitation
- Record soil temperature with ground probes
- Measure soil moisture
- Read air temperature
- Record relative humidity
- Record leaf wetness

Another station available is the IMT range, which records the basics already listed, but will also record global radiation and local evapotranspiration for the field.

Each station comes with a solar panel connected to a battery which keeps the battery charged up in daylight, which is also recorded on the field climate platform. The stations record data every 5 minutes then reports back the data collected to its platform every hour.

Budget lines and alerts for irrigation can also be set for piece of mind for irrigation of valuable crops, once the station has gathered information about the soil type it is working in.



NEW IMETOS LORAIN WEATHER STATION

The new iMETOS LoRAIN weather station is a brand new station on offer from PESSL Instruments. This station is capable of measuring rainfall, temperature, and relative humidity. The software on the station itself can also forecast when you need to apply water to your valuable crops such as potatoes by setting budget lines from the Field Climate app either on smart phone or on computer platform. The way the station works is it is connected via a LoRa gateway, which establishes you own LoRa network for the stations to work and to send relative data back to the chosen platform. With a 8km (5 miles) line of sight between the device and gateway.

CCI A3 ISOBUS JOYSTICK - KUHN UPDATE

The new CCI A3 AUX – N Joystick is now available for a wide range of ISOBUS implements that demand a state-of-the-art joystick for operation. The touchscreen on the display shows the operator where the icons are exactly placed on the layout of the joystick, but it also gives you three different layout options to fit the needs of the operator and the machine.

The 3 different grids come with dividers for each button with a vibrate motion when activated, letting you know when the function has been activated.

KUHN VISTAFLOW

Kuhn Vistaflow is an intelligent tramlining valve that monitors seed passage inside seeding tubes. Fitted to the distribution head of each seeding row, the Vistaflow tramlining valve enables any tramlining rhythm and controls seed passage in each row. Different tramlining configurations can be saved via the user interface for faster subsequent operations: working width, track and tyre width of sprayer or self-propelled sprayer and fertiliser spreader. A red and green LED light indicated weather the valve is working correctly or if there is a blockage. It is also capable of half width shut off from the left or right.

RVT PRECISION
CROPCARE FARMING AMENITY RVT RTK

KUHN

RVT Precision would like to invite you to join them at...

TUESDAY 4TH FEBRUARY 2020

at Kuhn Farm Machinery (UK) Ltd, Stafford Park 7, Telford TF3 3BQ for a review of

SPREADER REFRESHER
MYJOHNDEERE UPDATES
JOHN DEERE DISPLAY SETUP & TOUR OF KUHN

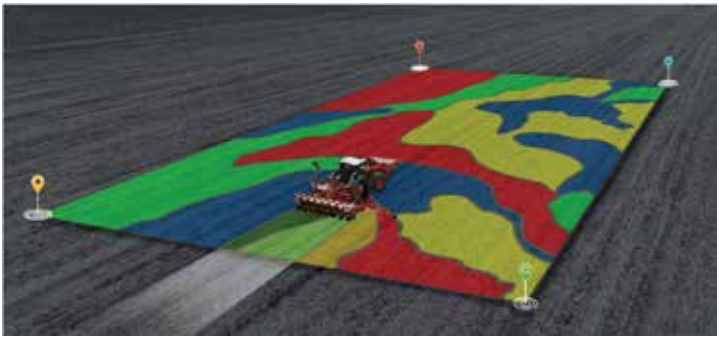
Starting at 9am and finishing 12:30pm with lunch afterwards

£50 Per Person

Please call RVT on 01743 289104 or email enquiries@reavalleytractors.com before 31st January 2020 to book your place.

MODULATE YOUR APPLICATION RATE ROW BY ROW WITH MAXIMA 3 e

The new KUHN MAXIMA 3 electrically driven seed drill is popular with many farmers thanks to its precision seeding and ease of use. Today, the new software of the electric MAXIMA 3 modulates the application rate row by row according to a modulation map. Results: Seed savings and higher yields!



Thanks to row-by-row application rate modulation, the MAXIMA 3 electric seed drill automatically modulates the number of seeds to be sown according to the field recommendation map loaded on the ISOBUS terminal. Seed densities vary according to soil characteristics.

This high-precision technology enables farmers to optimise farm operations:

- **Financial optimisation:** by adjusting the quantity of seed planted to the type of soil, farmers can capitalise on high-potential areas and limit the population in low-potential areas by adjusting the rate/hectare. Yields are therefore optimised across the field. Coupled with automatic row shutoff (section control), application rate modulation generates seed savings of roughly 2 to 3%.
- **Agronomic optimisation:** Adjusting the application rate in lower potential areas reduces water stress and improves access to the resources for the crops planted.

Modulating the application rate can generate about 5 to 8% additional yield depending on the soil characteristics.

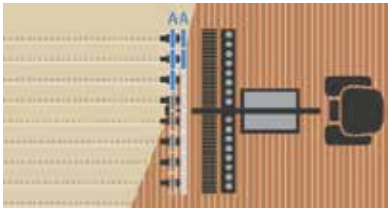
Modulating the application rate row by row is very simple on the electric MAXIMA 3 since all adjustments are made from the cab via the ISOBUS terminal. The density changes automatically based on the modulation map. If the seed drill passes over 2 different zones at the same time, each row of the machine complies with the seeding instructions on the recommendation map.

The MAXIMA 3 electric seed drills improve seeding precision by applying the right rate at the right place.

SECTION CONTROL ON FERTILISER AND MICRO-GRANULATOR

Different TC-GEO allowing to set-up individually the section-control of the 3 products:

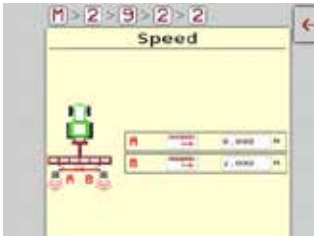
- Seed (1 section per row)
- Fertilizer (2 sections per machine with GT tanks)
- Microgranulator (on section per machine)



CURVE COMPENSATION

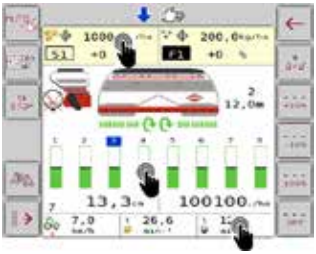
Set-up two radars on the machine and adjust their position

- Allows to compensate planting rate in curves
- Second radar will be available as option on machines of 6m and more



UPDATES TO THE MENU SCREEN

- Shut off rows manually with touch screen
- Long touch in seeding program = go directly to density set-up
- Long touch in bottom area = select the type of data shown



MOON LANDING MAIZE MAZE SHOWCASES PRECISION FARMING CAPABILITIES

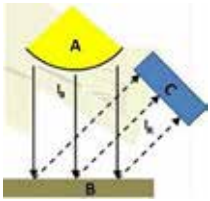
Contractor Michael Tomlinson, working closely with Nick Wells from Rea Valley Tractors and RVT's Precision agriculture team, used his new 8-row Kuhn Maxima 3 TI E drill to sow the field with a single pass on 1st May 2019. The resulting intricate maze design that celebrates the 50th anniversary of the first manned moon landing has been achieved without any manual intervention in the field.

RVT RTK

WHAT IS HARVESTLAB 3000?

The HavestLab 3000 uses a light source (**A**) projects a beam directly onto the crop/product (**B**) as it passes the lens of the sensor. As the light energy is transmitted, it is then partially absorbed by the crop/product or reflected.

Using the amount of measured reflectance by the detector (**C**) and mathematical processes, the HarvestLab™ 3000 sensor produces moisture and constituent readings.



A= Light source B =Product C=Detector

Benefits of the infrared technology used in the HarvestLab 3000:

- High accuracy analysis even at high material flow speeds
- Analyse the whole amount of crop or product instead of just samples, which might not be representative
- Analyse several constituents at the same time
- Non-destructive method (material is not affected or damaged)
- Easy control and setup

HARVESTLAB

HarvestLab pre-season software update and calibration. Accurate readings from the HarvestLab require a yearly calibration using a black and white reference standard.

SERVICE FEE: £250 EX VAT

1 Sensor 3 Applications

Application 1

STATIONARY TESTING

The HarvestLab 3000 sensor and stationary kit can provide time and cost savings with use in the barn, field office, or anywhere feed analysis is needed. For example, the components of a total mix ratio (TMR) can be measured every day to ensure the correct mix ration to achieve maximum milk yield.

- Monitors silage quality all year long
- Supports daily feed ration calculation
- Moisture, dry matter, protein, starch, fibre, neutral detergent firer, acid detergent fibre, ash and sugar analysis within two minutes

Measured data can also be downloaded from the HarvestLab 3000 sensor and saved to a computer for record-keeping purposes or to share

> **"TMR measured every day ensures the correct mix ration"**


HarvestLab 3000

Application 2

SPFH

The HarvestLab 3000 sensor enables an accurate measurement and documentation of dry matter, starch, protein, neutral detergent fibre and acid detergent fibre in different crop types. For better fertilization planning in the next season, operators can use the HarvestLab 3000 sensor to determine and document the nutrient level which was taken off the field during harvest. It also helps to achieve higher quality forage by enabling automatic length-of–cut adjustments on-the-go to ensure optimal bunker compaction and conservation. In addition, the smart use of additives ultimately leads to higher milk yields and more efficient use of feed.

- Yield measurements while harvesting
- Moisture, dry matter, protein, starch, fibre, neutral detergent fibre, acid detergent fibre, ash and sugar analysis on-the-go
- Biogas producers get accurate information on the actual crop they buy
- Inoculant dosing based on current dry matter level
- Automatic length-of-cut adjustment on-the go

Application 3

MANURE SENSING

The HarvestLab 3000 sensor allows precise application of liquid organic fertilizer based on target and limit rate. This eliminates over fertilization (causing laid crops) and under fertilization (causing low yields). The system allows calculation of precise prescription maps to fill nutrient levels to the desired target, meaning the producer pays for quality not for quantity. Additionally, it helps to properly determine and document the applied nutrient levels to comply with legal regulations and cross compliance.

- John Deere Manure Sensing enables real-time constituent measurements in liquid organic fertilizers (hog, cattle, biogas)
- Automated and site specific nutrient application and documentation
- Dry matter, nitrogen, ammonium, phosphorus and potassium

The Harvestlab Mounting Bracket Fabricated into a dribble bar slurry applicator

Application 2 Focus

Rob Gough recently purchased a new 9600i SPFH complete with HarvestLab technology, which proved to be one of the main purchasing decision for investing in this machine. Rob says "I want to be able to connect the whole field operations for the growing season from fertiliser applications to variable seed rates then ultimately harvest information as this impacts the output of our AD plant and cattle.

It is all about consistent high-quality material, on the investment we have made with the whole farming enterprise and the influence that good quality forage has on our operation the additional cost of investment of the Harvestlab soon covers itself.

Through the use of HarvestLab we know that every acre we harvest is at the right specification for what we want and we know that straight away, whereas before it might of too dry, too wet there was too much guess work involved, from a biogas point of view all we want to do is produce as much gas from the forage."

Robs uses the MyOperations app to keep track of harvest progress and yields. To dive into more detail the Field Analyser in the John Deere Operations Centre lets you view yield maps of each constituent or compare either each cut of grass throughout the year or in the case of Maize and Wholecrop we compare multiple years to identify any agronomic trends "what we have learnt this year holds us in good stead for next years and how you operate and manage your farm might be different each time".

Rob also uses the data to highlight varieties which have performed the best, the Operations Centre lets you visibly see the results of each variety in terms of t/ha for quick reference. You can also see the impact of planting date has had on yield "what was interesting this year was that the latest maize crop that was planted yielded the best, which shows planting early doesn't always pays dividends"

> **"Through the use of HarvestLab we know that every acre we harvest is at the right specification"**

Future uses of the sensor will involve linking it to digestate applications so we can record and control what we are applying, and even viably apply digestate based on the results from the SPFH.

Rob uses the phrase "in control of there own destiny" as you can cut when you want when the Dry Matter is at the optimum level, Rob did turn to one occasion when through the week they had been cutting some light yielding grass silage at 30% DM, then reached some higher yielding fields which were reading 2% lower, so they stopped harvest for a couple of days to increase DM, from this they can maintain a more consistent feed quality.

Rob Gough of Wigley Farm, Ludlow

NEW FOR 2020

NEW APPLICATION CONTROLLER

Exciting new opportunities with the new John Deere Application Controller 1100: With the new hardware, several related software applications are being enhanced to take advantage of the expanded capabilities of the controller.

Application Controller 1100 Key Features

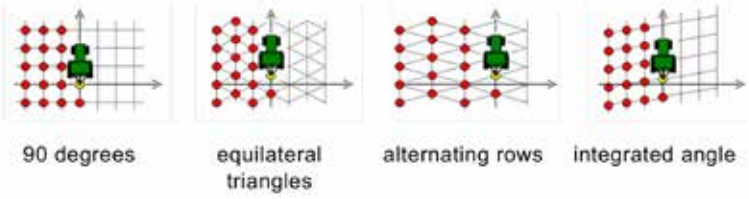
- Application Controller 1100 enables automation solutions for machine guidance as well as hydraulic control. These solutions are enabled via a StellarSupport™ activation for each solution. Multiple solutions may be activated on a single controller.
- iGrade™ and Distance Trip enable land leveling and distance-based operations through automated hydraulic control.
- John Deere Active Implement Guidance and Plow Steer enable implement guidance solutions to achieve more precise tracking of implement location.
- Compatible with 6R internal valves, no need to install an external valve any more.
- Refer to individual solution model pages in the Value Selling Navigator for more detailed solution information and for machine compatibility.

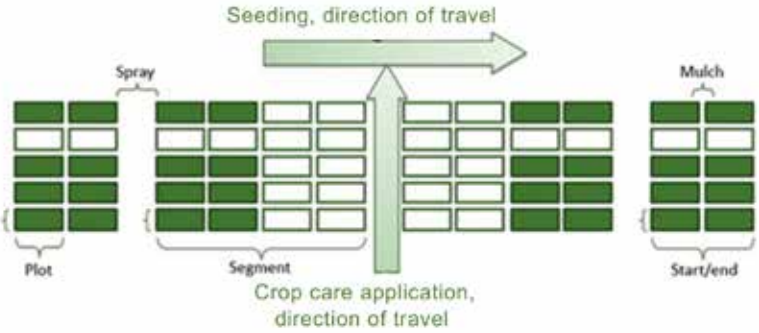
Active Implement Guidance

- The new Application Controller 1100 enables Plow Steer which replaces SBG iSteerTM Plow product functionality with compatible valves. Guidance lines navigate the plough by adjusting the plough width to maintain a selected centre point between guidance lines.
- Tractor Integrated Active Implement Guidance hardware solutions utilise vision cameras and specialty hitch designs to allow movement of cultivators in row crops.

iGrade™ and Distance Trip

- iGradeTM is now compatible with up to 3 scrapers with elevation and slope control.
- New Distance Trip functionality can perform many different tasks. The most common tasks are:
  - Creating headland furrows in ditch irrigation applications.
  - Creating equidistant post holes for fencing operations.
  - Defining plot-based alignments for seeding and spraying operations based on segment length.
  - Up to 10 user defined patterns with associate reference points (e.g. for orchards).





Grid (90-degree, equilateral triangles, Alternating rows, integrated angels), parallel lines, fence posts and plot pattern.

Patterns may use manually entered guidance line track spacing to synchronize the application controller pattern spacings.

TRACTOR INTEGRATED ACTIVE IMPLEMENT GUIDANCE

John Deere's new Tractor Integrated Active Implement Guidance steers row-crop cultivators by combining a camera with GPS steering for high speed, high output mechanical weed control. A camera mounted on the cultivator detects the actual position of row crops by colour differentiation of soil and crops. Operators can use Tractor Integrated Active Implement Guidance in early crop stages from a crop height of 10cm until 90 percent canopy.

The implement is side-shifted with a double-acting hydraulic side stabilizer on the left hand side lower link. Different to other systems on the market no weight increasing side-shift frame is necessary. A stabilizer disc ensures precise tracking accuracy, especially at high speeds. The patented stabilizer disc is fixed to the tractor's hitch block and absorbs the lateral forces of the attached implement.

Tractor Integrated Active Implement Guidance offers an even higher degree of automation: In addition to controlling implement position also the tractor speed can be adapted automatically, based on actual distance between implement and crop. Combined with John Deere's AutoTrac Turn Automation a full infield automation including headland turns is provided. There is no other system in the market that combines all these functionalities!

AUTOTRAC VISION

AutoTrac Vision revolutionizes the ability to use AutoTrac for post-emergence applications in 75-cm (29.5-in.) row crops and tram lines in small grains. Operators can use AutoTrac Vision in early crop stages (corn, soybeans, and small grains) on sprayers and tractors from a crop height of 10-cm (3.9-in.) until 90 percent canopy. AutoTrac Vision performs well in row crops during operations like spraying, nutrient application, or mechanical cultivation.

AutoTrac Vision will allow producers greater productivity by providing the option of applying post emergence with less stress and improved efficiency. Contractors especially can increase their productivity when using the AutoTrac guidance system in fields for which they do not have guidance lines or were planted without a guidance system. The tractor and self-propelled sprayer respectively will follow the actual planted crop row or tramline to decrease crop damage and reduce operator fatigue compared to manual driving. This solution will meet guidance needs when performing in-row integral or drawn operations such as side dressing or mechanical cultivation.

NEW ENTRY LEVEL AUTOTRAC IN PDU+ DISPLAY

We are pleased to announce the launch of the new industry-exclusive Entry level AutoTrac for the 5R MY20 tractors. With this new option, the operator will be able to run AutoTrac in straight lines through the corner post display PDU+ (Primary Display Unit), so no additional monitor is needed.

GEN 4 SOFTWARE UPDATES

Software released for the Gen 4 family of displays has now gone from 2 to 3 times per year, new functionality will get released with each update with the first in March, July and November. In this section we will review the key updates that have been released this year.

THIRD-PARTY N-SENSOR SUPPORT USING RS232

4600 Command Centre V2 and 4640 Universal Display now support RS232 connection to N-Sensors from Yara, Fritzmeier and GreenSeeker.

ACCESS MANAGER

Farm managers now can lock out additional settings to prevent undesired changes. Common settings now lockable include:

- AutoTrac™ Guidance Settings
- AutoTrac™ Guidance Shift Track
- AutoTrac™ Guidance Track Data
- Flags
- Machine Profile
- Implement Profile
- Section Control
- Setup Data
- Work Monitor
- File Manager
- Wireless Settings

FIELDS & BOUNDARIES

- Top and bottom headlands can now be created, imported, and exported.
- Driven headland boundaries can now be imported. Driven headland boundaries cannot be created on the

Generation 4 Displays.

(Note: Due to the format in which they are saved, top and bottom and driven headland boundaries will all be displayed as custom offset boundaries if they are imported to the display. A display can only have one custom offset boundary associated to each field at one time.)

IN-FIELD DATA SHARING

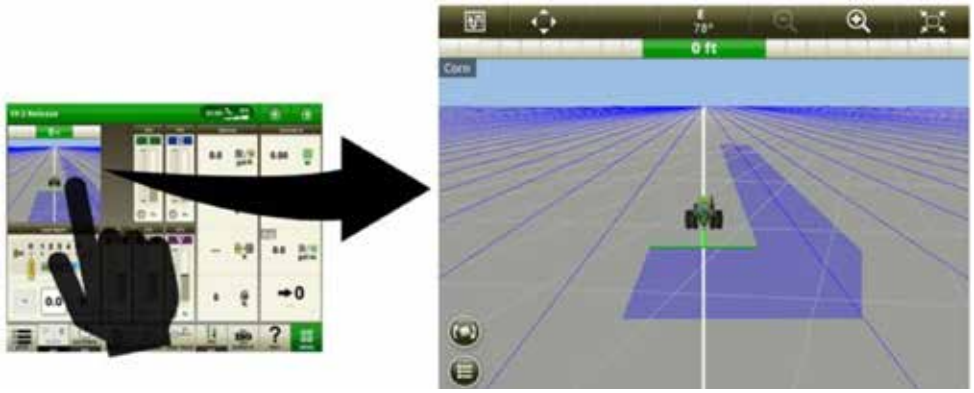
- An operator joining a work group can now automatically set up their client, farm and field. Additionally, they can select their crop or product, varieties, and tank mix to match an existing display in the work group.
- An operator can identify a work group to join based on GPS proximity.
- Guidance line shifts can be more easily shared. The operator receiving the shift can select a different guidance line and reselect the original line to receive the shift.
- Operator name of other machines in the workgroup will be displayed on the map while sharing. The operator name is entered in the Work Setup application.

(Note: By default, operator name and license information is only enabled on sprayers and spreaders. To enable operator name on other machines, navigate to Work Setup application then Advanced Settings. Check the "Enable Operator License" selection. After closing Advanced Settings, a new section for operator details will be available on the left side of the Work Setup application. Select the operator details section, then select "Add Operator" to define the operators name.)

MAPPING

Additional run page map modules to allow greater customisation. Run pages can be configured using the Layout Manager application.

Small run page map modules without map control buttons will now expand to a full screen map view when selected. This action can be performed with a map module on the primary display or the extended monitor.



Connectivity - Generation 4 displays are now capable of using Data Sync in conjunction with a customer's third-party data plan (through an access point) without an MTG and JDLink™ Connect subscription.

To use this feature, establish a Machine to Wireless internet connection within the Wireless Settings application. After this is complete, then navigate to the File Manager application and select the Operations Centre tab. Select Display Registration to complete the display registration to your Operations Centre organisation. The display will provide a website and a generated code to complete registration. This establishes a connection for the display to automatically send work data to Operations Centre. Regionally specific activations or subscriptions including Data Sync are required to utilise this feature.

Note: 4240, 4200, and 4600 Displays require a wireless USB adapter to utilize this feature. 4640 Universal Displays can utilize their built-in wireless capabilities. Wireless connectivity is automatically prioritized by the display starting with MTG (if equipped), then built in wireless capability (4640 only), and lastly wireless USB adapter (if installed).

For additional information please contact RVT Precision on 01743 289100.

- **John Deere 4640 and 4240 Universal Display Security PIN Code** - This feature provides the option to lock the display to prevent unauthorized users from using the display. The device must be registered to the customers MyJohnDeere account on StellarSupport.com to take advantage of this feature. An owner can establish an Operator PIN and an Administrator PIN which they will use to access the display. If a PIN is forgotten, the display will have temporary access of use for 24 hours after which it will be locked permanently. A forgotten password can be recovered via the owner's MyJohnDeere account.
- **Tank Mix Calculations** - Tank mix calculations have been improved to automatically calculate the amount of carrier in a mix when product rate changes are made.
- **Add Virtual Operation to Implement** - This feature provides users with the ability to add a virtual operation to an implement with a controller. This allows an operator to add a virtual documentation record for work in addition to what an implement controller is already documenting (example – documenting constant rate application of insecticide or starter fertiliser while planting).
- **Manual Documentation of Weather and Field Conditions**

  Provides the ability to manually document the following information in Work Setup:

  - Soil Moisture
  - Soil Temperature
  - Air Temperature
  - Wind Speed
  - Wind Direction , Sky Condition & Humidity
  - This is viewable in the John Deere Operations Centre

MYJOHNDEERE UPDATES

- **Product manager updates -** Products can be imported from a setup file; further mixed units are now supported.
- **Field Analyser Beta updates -** Operator and license numbers are available in Field Analyser Beta.
- **New File Manager tool -** A new tool for managing files is available in a beta version.
- **Release Notes now available by tool -** Release Notes can be found in the help section inside each tool.
- **Work Manager tool shows guidance lines -** While creating a new job in the Work Manager tool, a preview of the selected guidance lines is possible.
    - John Deere Operations Centre no longer supports Internet Explorer® browser - Tools in Operations Centre are not fully functional with Internet Explorer.
    - Archiving support (archived fields and products in jobs) - Archived fields, boundaries, guidance lines, and products are no longer visible when creating a new job.

Case IH and New Holland data compatibility - Upload of operation data from Case IH and New Holland displays in Operations Centre is possible. With this update, it will be possible to upload harvest and seeding map layers from Case IH and New Holland displays into Operations Centre via the Files page and John Deere Data Manager. The layers show up in Field Analyser Beta, and the data is visible in the Agronomic Reports. The data needs to be a .cnl file type. Data from the following displays can be used:

Case IH	New Holland
AFS Pro 300	IntelliView™ II
AFS Pro 600	IntelliView III
AFS Pro 700	IntelliView IV
FM-750	IntelliView Plus II
FM-1000	FM-750
XCN-2050 (with FmX® Plus app only)	FM-1000
	XCN-2050™

- **Improvements of John Deere Operations Centre and solutions -** New crop types and units will be compatible with the Gen 4 19-2 software update, and Operations Centre Files Manager Beta receives new functionalities including upload files via Drag-and-Drop, select all, and Send to Equipment.
- **MyOperations™ app updates for iOS® and Android™ systems -** Improvements are added for flags functionality and mobile location sharing within the MyOperations app.

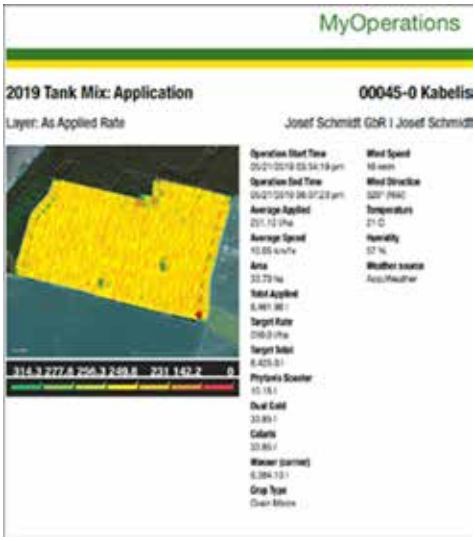
- **Flags in Field Analyser Beta -** Possibility to view flags in Field Analyser Beta
- **Field Analyser Beta supports application and tillage data -** Live and historical application and tillage data now available in Field Analyser Beta
- **Updates in Agrian® prescription creator -** The new Agrian tool is now compatible with Gen 4 harvest data, large fields, and all layers in Field Analyser Beta.
- **iOS® 10 no longer supported -** MyJobs and MyJobsManager mobile apps are no longer supported on mobile devices running iOS 10. iOS 11 or newer is required.
- **Synchronization of machine off-sets -** Machine off-sets created in Operations Centre, sent to the machine, and updated on the machine will be updated in Operations Centre as well.
- **Flags in MyOperations mobile app** - Create, edit, and delete point flags with the MyOperations app.

With this update, additional functionalities for flags in MyOperations have been added:

- Option to create and edit flag categories inside the app
- Colour-coding for flag categories in the app
- For Android only - filter flags on the map and share flags via mobile sharing (Mail, Messenger, and other apps). Users can now navigate to flags using Google Maps™ service

GET IT ON Google Play

Download on the App Store



Rate Controllers

We can add a rate controller module that can be linked to liquid fertiliser and nematicide applications for controlling the product being applied. The benefits of this includes being able to document the as applied rate of each product to see what's been applied across the field, it gives the possibilities of doing variable rate applications, eliminate control boxes from the cab as everything is ran through the one display and also enables section control to be used on the headlands.

Yield Mapping

Through using the John Deere Yield Documentation for Speciality Crops, we can offer the ability to be able to yield map potato harvests, this uses weigh scales that can be mounted to any harvester that has a conveyor, to calculate yield data. The weight of the crop is measured as it passes over the sensors in the conveyor.

Documentation and Section Control

We offer hire of RTK systems for the planting season which enables section control of the potato planter. This includes receiver and displays that can be fitted to any make of tractor. With the latest updates on the display we can use the RTK Modem to generate a WiFi hotspot for Gen 4 displays to connect to this and enable real time data transfer, so you can see planting progress. All varieties and seed rates can be recorded for future use and viewable on the MyOperations app.

RTK KITS

Heals Farms near Shrewsbury invested in adding GPS controlled section control on their two Grimme planters. Farm Director Matthew says "we were looking at reducing seed losses on the headlands to provide economic and agronomic benefits". They hired two RTK kits for the season which we installed into Case tractors we also fitted JD Link MTGs into each tractor so Matthew can track location and planting area covered.

Earlier in the year we installed an RTK receiver and display on there quad bike so Matthew can accurately boundary map all the fields that were being planted, we then imported all the data into the John Deere Operations Centre so we had all correctly named fields and boundaries. All the varieties were setup on the displays pre-season to help ensure operators could quickly select between the different ones.

Through having the JD Link installed it also enabled wireless data transfer, which Matthew was impressed with "impressive to be able to see planting progress, which machine had planted where in the field and how much seed, fertiliser and nematicide was needed to finish the field". Through the MyOperations app Matthew knows exactly which varieties are in which part of the field, which could lead to spraying different pre-emergence herbicides as some varieties are resistant to certain chemicals.

The savings on seed meant they could plant a further 25 acres they were also able, towards the end of planting, to decrease their seed spacing, he also cancelled some liquid fertiliser deliveries as this was not needed, Matthew reckoned as a whole it saved around 6% of input costs during planting.

RVT RTK

> "reducing seed losses on the headlands to provide economic and agronomic benefits"

From an agronomic point of view he comments "we have helped to minimise loses of seed on the headland tracks, not planting in this area means that you are not planting seed into ground that isn't treated with nematicide, you have not got potatoes growing in an area that will increase blight risk. And you haven't got a legacy of self-set potatoes in the following years"

The Heals team did not have much experience of the Greenstar system but they found it straight forward to use and user friendly. Going forwards they would like to record the seed certification label being used for extra traceability which can be linked back to the seed merchant, this is now possible with the latest update on the John Deere Operations Centre.

LA FORAGE SHIFTING HEADSTOCK

ACTIVE IMPLEMENT GUIDANCE

Over the past 12 months we have been trialling a LaForge shifting headstock designed to keep the implement in the correct place at all times, especially on side land ground. Effectively the system will steer the implement to the guidance line which enables accurate and precise field work taking precision to the next level. This also helps when machines are running through the field multiple times though out the season.

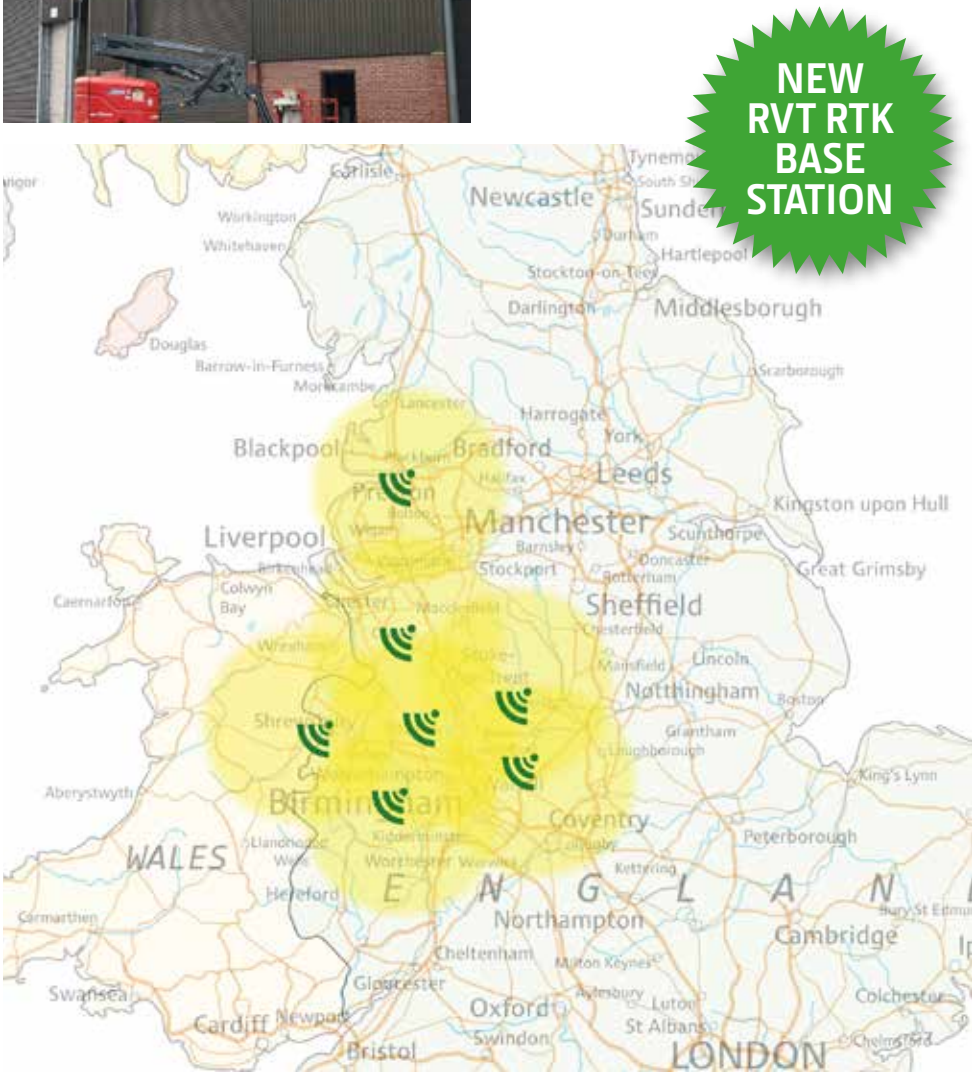
SLURRY RATE MONITORING SYSTEMS

RVT Precision fit rate controller systems that link to either existing flow meters or they can add a flow meter to any slurry applicators to record and document as applied rate across the field. The data can be uploaded to the MyJohnDeere platform for analyses and to review what has been applied.

RVT Precision have applied this system to slurry tankers and dribble bars, for more information please contact the RVT Precision team on 01743 289100.

NEW RVT RTK BASE STATION

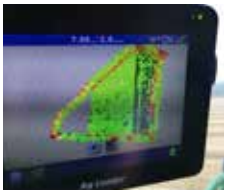
We demoed RVT RTK last year at a farm close to our Sudbury depot who run two drills together, one had SF1 the other our RTK, we could then do a direct comparison between them, we found that being able to increase the working width of the implement as we were working down to 2cms and the accuracy it brought meant results showed an extra 5 acres per drill per day, which over the course of the season is a significant saving.

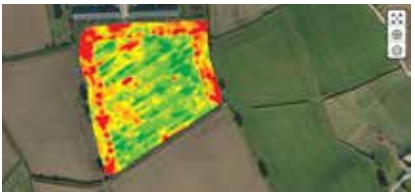


RETRO FIT YIELD MONITORING KITS

Ag Leader offer a wide selection of retro fit yield monitoring kits to fit a good range of machines, in fact most John Deere combines are fitted with Ag Leaders very own yield monitor.

For this harvest we have added yield and moisture monitoring to this JD 9780 CTS combine, using an Incommand 800 display. With the latest update to MyJohnDeere we can import yield data directly from the Ag Leader display so that it is viewable in the field analyser and on the MyOperations app.





Ag Leader Guidance fitted to this Massey and Fendt tractors running RVT RTK.
Section control and hydraulic steering fitted to Sands Sprayer.

OPT RX CROP SENSOR

Ag Leader

We have sold our first OPT Rx crop sensing system, this uses light reflectance to detect variation in crop vigour throughout the field. This can then directly control the application at the time or the data can be imported into SMS for review throughout the season. The system we have sold is to be used in conjunction with a fertiliser spreader to variably apply the fertiliser product. Guy is busy making a bracket for the front of the tractor for the sensors to mount to, with can be raised and lowered with a flick of a switch.

Hydraulic steering, RVT RTK and ISOBUS Loom to run Kuhn fertiliser spreader.
Ag Leader Compass Kit installed into tractor for parallel tracking

SEED COMMAND

Ag Leader®

Something unique to Ag Leader is the range of seed command products they have available. In the ever-expanding world of precision farming growers are looking for more bespoke equipment to improve the precision of their planting operation. Ag leader offer a retro fit solution to convert old planters from land driven planters to electric drives. The benefits of such a system means that old machinery can be upgraded to the latest technology, remove wearing hardware such as chains and sprockets and incorporate the latest precision technology.

The electric drives bring the ability for variable rate, eliminate wheel slip of ground drive systems, sectional control, are able to monitor and record population of seed and monitor singulation.

Additionally, you can add the seed row feature to apply a Male and Female row rates. This allows the operator to select the gender of the desired units and assign different rates for each gender without having to change the metering disc.

> "you can add the seed row feature to apply a Male and Female row rates"

Turn compensation is another feature that Ag leader have integrated in to the system. This feature speeds up and slows down the seed meter when working on curved lines. This means accurate placement of seed on each row when turning.

All these features combine and are displayed in an easy to use format on the Ag Leader InCommand 1200. As applied maps are documented on a row by row basis giving you precise information about your planting operation. To compliment this, the AgFiniti App allows you to view live stats of the planter including forward speed, rate and area worked. Live maps will write the as applied map to the cloud while in progress allowing the grower to manage the planting operation remotely.

SeedCommand®

NSTS TESTING

KEEPING YOU LEGAL

When it comes to making sure your machines are safe to use and kept within the law now has never been so important. Since the legal requirements for all pesticide application equipment (PAE) to be tested came into force farmers are seeing increased benefits of regular testing.

At RVT we are an official NSTS Spreader and Sprayer test centre. We have a number of qualified NSTS examiners across the group to deliver an efficient and high standard service.

Major components of the sprayer tested include control systems, hoses and pipework, nozzles and nozzle control systems, filters, pumps, tank, chemical induction systems and booms. In addition it is recommended that computer control systems are checked to maximise efficiency and to satisfy the calibration element of crop assurance schemes.

NSTS SPREADER TEST

The National Spreader Testing Scheme takes on board economic, environmental and compliance issues to deliver this national standard for fertiliser spreader tests. The spreader testing protocol ensures all spreaders; disc, boom and pendulum, are tested to the same exacting standard.

While the immediate impact of inaccurate spreading is financial, it can also affect conservation field margins and lead to contamination of water courses.

Plus 10% OFF on sprayer nozzles when you have a NSTS sprayer test on your sprayer!

> **"All machines considered, no machine too big or small"**

This comprehensive test covers all the application components of the sprayer to ensure the machine is working correctly and efficiently with further considerations of safety for the sprayer operative and the environment.

According to DEFRA's fertiliser manual (RB209), fertiliser spreaders should be regularly maintained and serviced, replacing worn parts as necessary. To check uniformity of spread pattern, trays should be used to produce a coefficient of variation across the full width of spread.

A coefficient of variation above 20% will lead to visible striping in crops. And as this figure increases from 20-30%, crop yields in wheat and oilseed rape for example, are likely to be reduced. Even if there is no visible stripes in the crop, there is no guarantee that fertiliser is being evenly distributed cross the desired working width.

The National Spreader Testing Scheme has been created to promote efficient use of fertilisers and to help growers achieve better yields. Additional benefits of annual testing include; the meeting of cross compliance and NVZ regulation, and ultimately delivering peace of mind that fertiliser application is correct.

NSTS PELLETER APPLICATOR TEST

A well maintained and regularly tested machine helps to ensure pesticide operations are safe for the operator and environment, ensuring efficient and accurate on target application. These measures are a legal requirement. Non-compliance could lead to prosecution and threaten your farm assurance status and single farm payment.

RVT
Rea Valley Tractors

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All prices exclude VAT unless stated.

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