

# AGRI-TECH REPORT



Insight, expert views and case studies to help farmers understand new technology



**NFU Mutual**  
FARM INSURANCE

# WORKING TOGETHER TO INFORM AGRI-TECH INVESTMENT



Tim Price  
Rural Affairs  
Specialist,  
NFU Mutual

I've met farmers who put their success down to always buying the latest tech on the market. I've met profitable farmers who always buy five-year-old machinery – because the bugs will have been ironed out. And I've met farmers who pride themselves on investing as little as possible and get by pretty well with 'dog and stick' farming.

But I am now meeting a worrying number of farmers who have put off making decisions on investing in technology. They are facing a stark choice between making massive investments to remain competitive or being left by the wayside.

To help farmers make the right choices to farm sustainably, profitably and safely, NFU Mutual is working closely with scientists, agricultural universities and tech companies to develop their understanding and protect farmers using tech. We are supporting farmers as they embark on a steep learning curve, and we will be sharing our growing insight over coming months through reports, blogs and podcasts to help farmers make the right decisions for their businesses.

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# CHOOSING THE RIGHT TECHNOLOGY TO FUTURE-PROOF OUR FARMS



**Ali Capper**  
Worcestershire fruit and hop grower and  
NFU Mutual Director

Since our early ancestors invented the plough and cultivated their crops, agriculture has been about finding ways to use new technology to feed our country and the world's growing population.

Today the Fourth Industrial Revolution is bringing exciting opportunities for farmers to increase productivity, protect the environment and make farming safer.

From the use of 'big data' to inform farm management decisions to autonomous tractors and robotic pickers, we are on the cusp of a world where farmers and growers can minutely manage inputs to maximise production and use automation and robotics to reduce labour numbers and costs.

For livestock farmers, technology is offering opportunities to improve breeding programmes, better manage the health and welfare of stock, and match production to the demands of the market.

While the UK has world leading standards in food safety, food quality, environmental protection and animal welfare, we also have high costs. Technology can help us to reduce production costs, enabling us to compete in world markets.

As apple and hop producers on the Herefordshire/Worcestershire border, my family's farm competes in two incredibly tough markets – UK supermarkets and local and international brewing – and we see technology as essential for the farm's long-term future.

Compared to apple orchards we established in the 1960s, our apple yields have increased from around 20 tonnes/ha to over 50 tonnes/ha – and in our best plantings up to 70 tonnes of class 1 fruit a hectare. These increases are largely down to the use of technology and research to make the most of our soils and climate.

Instead of traditional widely-spaced tall trees, which were slow to pick by large teams of workers on ladders, we now plant shorter trees close together to present a 'wall of fruit.' Our small teams of pickers work in safety and comfort from a self-driving harvest platform.

We are eagerly awaiting the time when robotic pickers are accurate and delicate enough to replace increasingly expensive and scarce seasonal workers. We are also hugely excited about the potential for hi-tech soil mapping to give us very detailed and accurate information to plan future orchard plantings and manage inputs.

Joining the coming technology revolution isn't a matter of choice if farm businesses are to remain profitable in the long-term. We operate in a fiercely competitive global marketplace where food producers across the world are fast adopting new technology. Businesses which don't keep up, or make the wrong decisions for their farm's future, risk being left behind.

The huge challenge facing farmers is deciding on the technology that offers the best way forward, and will integrate with other systems – and when to take the plunge. This report is aimed at helping farmers understand the opportunities and risks ahead and find the right route for them.

Since the days over a hundred years ago when horses provided the sole power on our farms, NFU Mutual has been protecting farmers' businesses.

We are working with scientists, manufacturers and industry leaders so we understand the risk new technology brings and can provide insurance to protect it. We're also helping the next generation of farmers prepare themselves to work in the new technological age through close cooperation and partnerships with our leading agricultural colleges.

The Brexit debate, and uncertainty over future agricultural support, has made this an incredibly challenging process for the UK's farmers.

Let's hope we get some clarity soon on the way ahead for UK farming to enable us to make decisions and find the funding to invest in the best of developing technology.

By doing so, we will be at the forefront of the agricultural revolution and combine sustainable production of top quality food with high welfare standards while moving towards carbon neutral farming.



# MAKING THE FARM TECHNOLOGICAL REVOLUTION WORK FOR YOU



Fang Wang  
Business Analyst,  
NFU Mutual

Business analyst Fang Wang, from NFU Mutual's strategy team, has studied global agricultural technological developments to understand the opportunities and challenges for the UK's farmers.

The Fourth Industrial Revolution is bringing forth rapid and large-scale technological transformation to the agriculture industry.

## **BENEFITS**

These technologies should bring considerable benefits to farmers:

### **Medium to large-scale farms**

Sensors, automated machinery and nutrition science are capturing enormous amounts of data. By integrating the data, farmers can take preventative action before risks develop into major problems.

### **Small farms**

Experience in other sectors of industry shows that the cost of technology can fall rapidly. Additionally, smaller-scale robotic equipment and data management systems are likely to make smaller farms, currently struggling because of labour shortages or costs, more sustainable.

### **Farmers' lifestyle**

Technology-based farming could also free up time from basic daily and seasonal work providing the opportunity to focus on management and enjoy a less demanding farming lifestyle.

## **Environment**

Technology also enables farms to be viewed as an eco-system. Data used effectively can help keep them in balance, supporting the environment and UK agriculture's ambitious target to be carbon neutral by 2050.

## **IS THE TIME RIGHT?**

Resilience and adaptability have always been part of farming and UK farmers have a proven track record of embracing new technologies. Our research has found that many farmers are open to using technology. However, adoption of new technology is currently slow for various reasons, including a lack of understanding and training on the technologies, capital required, and concerns about the reliability of first-generation technology.

While entirely understandable, this hesitancy is putting UK farmers at risk of falling behind other nations' farmers in the race for efficient, environmentally-friendly food production.

There are steps you can take to identify the right technological approach for your farm. Don't just jump in.

The key to successful use of technology is taking a whole of farm approach and investing in systems which have the potential to make the business sustainable and increase profitability.

# TOP TIPS FOR AGRI-TECH INVESTMENT

- Take a holistic approach – start by reviewing the farm’s long-term strategy and then identifying how technology and using detailed data could help you achieve your goals
- Explore technology systems which integrate not only with the farm’s activities but also with its supply chain, creating opportunities for farmers, food processors and retailers to work together
- Keep up to date with developments and ensure you have the management skills to adopt technology and successfully master the opportunities available from data-based farming
- Consider working with other farms, as cooperation can help achieve economies of scale both in the use of new technology and the adoption of farmer-friendly supply chains
- Farm data is a valuable asset – recognise its value and be very careful who you share it with
- Understand potential risks and knock-on effects that the new technology might be causing and the solutions to mitigate these



# DRONES: SEEING THE BIG PICTURE

**A drone's ability to complete crop health checks more thoroughly and quickly compared to traditional crop walking techniques is just one of their most valuable uses.**

Providing cost and time efficiencies means field analysis can be undertaken on a more regular basis and areas previously inaccessible to machines on the ground can also be covered.

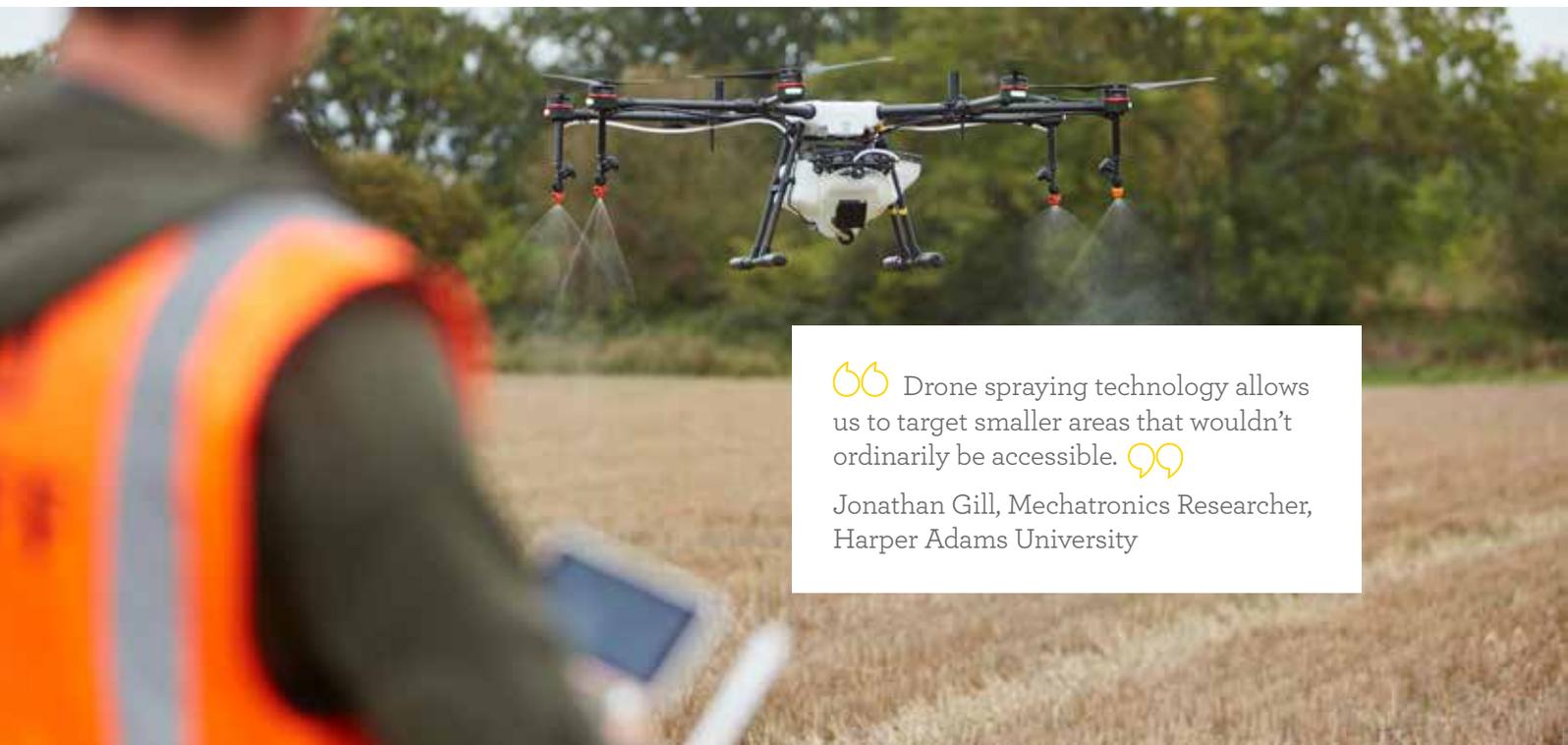
Using drones for soil analysis can provide a very accurate picture of weed locations and potential treatments can be geographically time-stamped. This allows farmers to undertake later visuals of the exact same spot in order to review progress of the weed or the effectiveness of previous treatments.

Companies such as Drone Ag are leading the way for farmers to undertake their own field crop assessments using a drone and still obtain the benefits of a professional agronomist's knowledge base.

Other uses of drones include 3D mapping services of buildings and terrain. This currently allows an operator to use the drone to take aerial images, which can then be formatted to present a 3D model of the topography of the terrain or a building that has been photographed.

In the future, the incorporation of Artificial Intelligence (AI) could further revolutionise field analysis techniques and procedures. Using AI to identify weed and pest damage, crop uptake and crop coverage will enable operators to see real-time interpretation from a large bank of data. This data can also be incorporated into a spraying control unit to assist with variable rates of spray application across the field.

In conjunction with field crop analysis, drones could have the ability to undertake targeted spraying applications if legal restrictions on aerial spraying are relaxed.



🗨️ Drone spraying technology allows us to target smaller areas that wouldn't ordinarily be accessible. 🗨️

Jonathan Gill, Mechatronics Researcher,  
Harper Adams University

# CASE STUDY: SMART USE OF EXISTING TECH

**Farmers investing in agri-tech should start with a small investment with the potential to link together existing equipment and management systems, says Drone Ag founder Jack Wrangham.**

Jack started by building drones on his 6,000 acre family farm in Northumberland and first saw the opportunity to use the technology in agriculture 12 years ago. To realise a drone's full potential, Jack has also developed software platform Skippy Scout, which allows farmers to quickly and easily gather crop information.

“My primary piece of advice for a farmer looking to bring technology onto their farm is to start small.”

“It might simply be that you could be making more of the kit you already own. For example, if you've got a tractor with auto-steer, or even more advanced tech like real-time kinematic (RTK) GPS, you could start

trailing it and see how it works for your farm.”

“I'd advise against spending a fortune on tech that is difficult to configure to your needs. Instead, gather the information necessary to take advantage of capabilities your machinery already has. If your sprayer is capable of doing variable rates, for example, look into the different ways of collecting the information to make that process more efficient – such as drones, soil analysis or satellites.”

“In the future, I'm hoping to see farming tech follow other industries into a system that is more integrated and holistic. At the moment, farming technology is quite segregated, but in time I hope to see a much more open data sharing platform or platforms, where information can be easily exchanged, allowing machinery to make automatic adjustments and improve efficiency.”



# CASE STUDY: PRECISION GROWING UNDER GLASS



Vince and Jimmy Russo, of Valley Grown Salads (VGS), is a second generation grower based in the Lea Valley area on the Essex/Hertfordshire border, just 20 miles from Central London. He runs a mass scale operation, providing home-grown produce from 30 hectares of land to the major British supermarkets.

“Our aim is to grow to the highest standards, with food safety being our number one priority,” says Vince. “That means we only operate to the best working practices and innovation has helped us do that.”

Since Vince’s father started working in the nurseries during the 1950s, using wheelbarrows, watering cans and a patch of soil, the business has grown to a state-of-the-art glasshouse which was opened in 2017 with multi-million pound investment. Each year they grow 10 million peppers and tomatoes solely for British consumers.

“We are constantly using innovation to maximise taste and quality for consumers and our sweet peppers and tomatoes are grown to maximise shelf life,” explains Vince.

“We grow our produce from rock wool slabs which prevents root disease and creates a more controlled growing regime,” explains Vince. “Our hydroponic systems can use up to six times less water than field grown crops, which we then recycle along with fertiliser and CO<sup>2</sup> extracted from the boiler. We are major users of biological pest control rather than chemicals and pesticides to ensure environmentally friendly growing.”

Produce is gathered straight into automated trolleys from the growing area, then transported into the grading and packing area using driverless technology. The produce is automatically routed to the grading machine, which reduces energy, waste and the need for manual handling.

Lee Stiles NFU Mutual Agent and secretary of the Lea Valley Growers Association – a specialist glasshouse branch of the National Farmers Union – says:

“The Lea Valley is known as the Cucumber Capital of Britain and London’s Salad Bowl, producing around 80 million cucumbers and 70 million sweet peppers per year – that’s around 75% of the UK crop.”

“Glasshouse food production in the Lea Valley spans three centuries and began due to its close proximity to Covent Garden Market in London, being just a day’s ride by horse and cart.”

“Precision growing under glass in a controlled environment means that growers can produce more fruit from a smaller land area with less environmental impact.”

“The next generation of harvesting robots are in development, but are some years away from becoming commercially viable. The availability of a sustainable workforce therefore remains key for most businesses operating in the fresh produce sector to stay competitive.”

# ROBOTICS: AUTOMATING THE CROP PRODUCTION CYCLE

Robotics offer one way to improve farm productivity. Small robotic machinery can be used in arable crop monitoring, analysis, spraying and drilling processes, whilst larger robotic picking arms and systems can assist with harvesting efficiencies and quality control.

Automation of soft fruit and vegetable production systems have been slowly growing, particularly within glass house systems.

One example is Agrobot, a company who have developed a strawberry harvester to pick the berries around the clock without damaging the fruit.

Elsewhere, UK tech innovator, the Small Robot Company, has developed three light-weight field robots to carry out data collection, crop treatments and harvesting with minimal soil compaction.

Robotic harvesting machines will continue to be developed with more sophisticated AI, potentially enabling the robot to replace human quality control measures on the picking line, automating the entire process.

# VERTICAL FARMING: CAN IT STAND UP?

Vertically farmed crops are grown in stacked layers to maximise the use of space. Their indoor controlled environment minimises the need for herbicides and pesticides whilst enabling energy and water to be closely regulated.

Current active vertical farm systems often incorporate a high level of autonomy, with robots, artificial lighting, temperature and irrigation systems in place to service the crops, needs, and in some cases, harvest the crops as well.

One of the greatest claimed benefits of vertical farming systems is that they can be located within urban areas, overcoming the barrier of transporting food before it becomes stale and unusable.

Vertical farming has mainly been adopted within the horticultural sector, specifically high-value green salad production due to the natural similarities with greenhouse production systems.

# LIVESTOCK: PRODUCTIVITY AND WELFARE BENEFITS

The use of precision technology in livestock farming has taken huge strides in recent years.

The focus has been on monitoring and tracking, with cattle behaviour analysis helping farmers increase milk yields, lower production costs and improve cattle welfare.

Calving sensors have also prompted advances in animal husbandry, while robotic milking has revolutionised production for many dairy farmers.

Livestock farmers are increasingly using drone technology. As well as offering opportunities to fly out and monitor animals, there have been some trials in the UK where sheep have been trained to follow drones which can lead them to areas of fresh pasture or, if severe weather is forecast, to areas of safety.

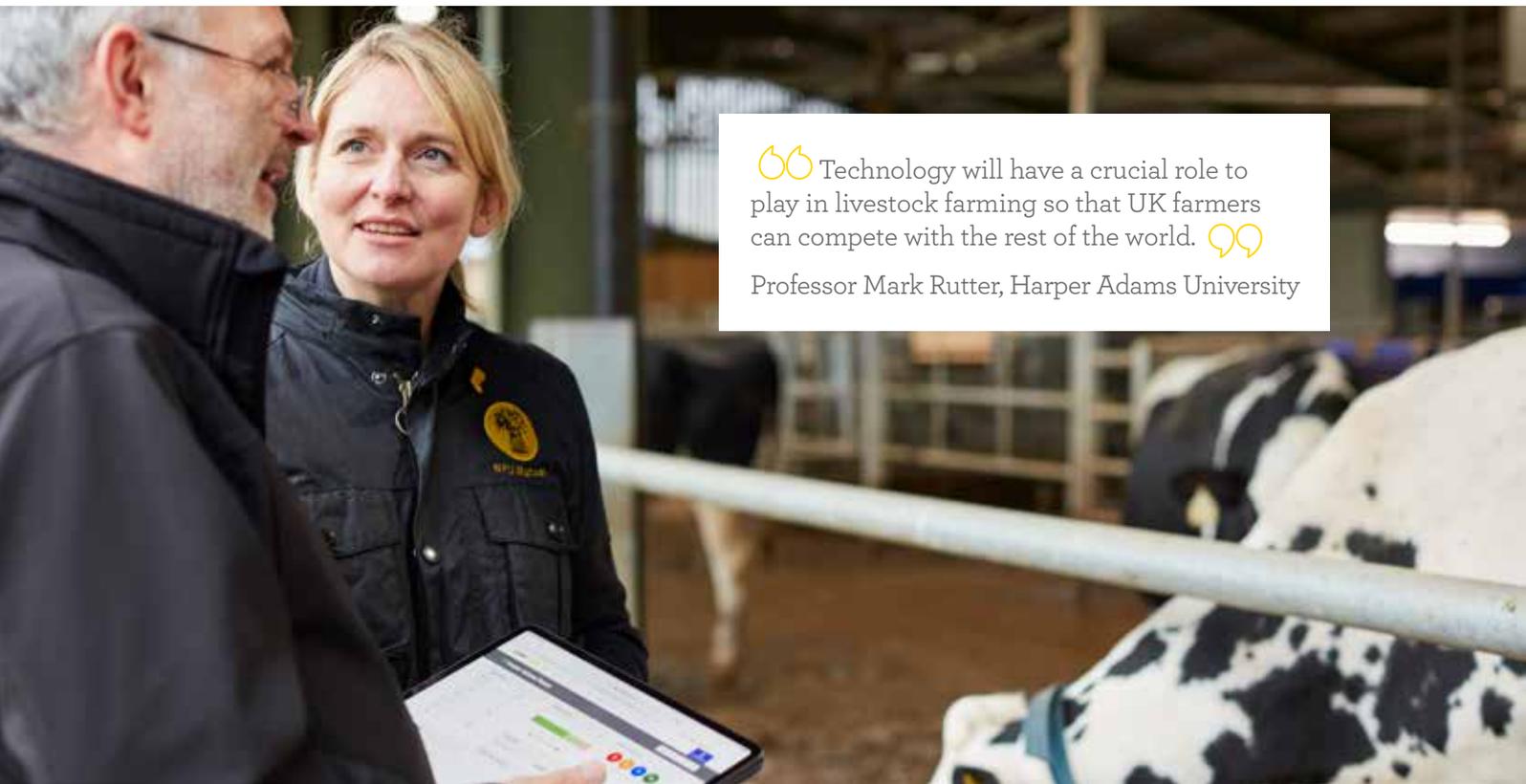
With consumers becoming ever more conscious of what their food contains

and where it comes from, agri-tech is helping livestock farmers to provide evidence-based information on their produce, including milk quality and fat content. Farmers can also use technology to demonstrate how they have prioritised livestock welfare.

Abnormal data readings can help farmers identify health issues early, allowing them to contain illnesses in the herd before they can escalate, prevent suffering to the animal, and reduce costly veterinary bills.

Mark Rutter, a Professor of Applied Animal Behaviour at Harper Adams University, says, "Technology will have a crucial role to play in livestock farming so that UK farmers can compete with the rest of the world."

"These technologies are not about replacing the skills of the expert stockperson, they are about managing animals more effectively and efficiently."



Technology will have a crucial role to play in livestock farming so that UK farmers can compete with the rest of the world.

Professor Mark Rutter, Harper Adams University



## CASE STUDY: SENSOR TECHNOLOGY BOOSTS COW HEALTH

Douglas Armstrong, Chief Executive at IceRobotics, fully understands the possibilities new technology can bring to the agriculture industry. The company has developed the CowAlert system, which combines a robust sensor with advanced data analysis. Working on a 24/7 basis, it constantly tracks behaviour, identifying changes in the health of each cow and alerting the farmer.

Douglas explains: “Farmers are under considerable pressure to become more efficient, environmentally sustainable and transparent with consumers, whilst maintaining high levels of animal welfare. All this must be achieved in a climate of lower labour availability and volatile markets.”

“New technologies such as CowAlert are now being adopted by farmers and their advisers to help them overcome these obstacles and achieve the set targets, whilst increasing their returns.”

“Farmers and their staff are under significant time pressures, particularly as unit sizes increase to meet demand. Sensor technologies such as CowAlert gather and analyse data continuously, alerting them to important health and welfare information such as heats, lying deviations and identifying early signs of lameness.”

# CASE STUDY: OPTIMISING POULTRY PRODUCTION



David Speller  
CEO, OptiFarm

David Speller is the founder and CEO of OptiFarm, a data analysis service that helps broiler farmers to interpret and act on the information gathered by their technology. He is also an award winning broiler farmer himself, with seven sites, 1.5 million birds and more than 14 years' experience.

“In developing the OptiFarm service for our own farms, we quickly recognised the potential of the data, and how it could help us make real-time, strategic changes to benefit our business.”

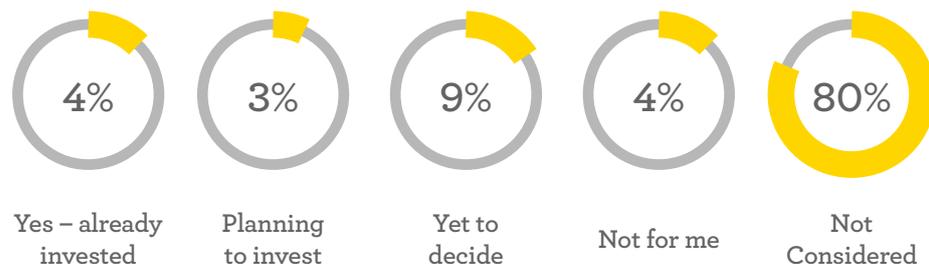
“There’s a huge variety of monitoring options available. These range from temperature, humidity, air flow, water intake and growth rate readings, all the way up to automatic image analysis and sensors which can help detect diseases before they manifest. The key benefit is spotting issues before they escalate and being able to react quickly.”

“But the benefits go far beyond optimising financial performance. The tech and data analysis brings peace of mind to many of the farmers we work with, ourselves included. It’s eye-opening to see how much can happen on your farm while you aren’t there. We’ve been able to warn owners of things like fires on site, burst water mains and birds suffering from heat stress.”

“If you’re thinking of investing in technology for your farm, my advice would be to assess whether it will offer you a return within 2-3 years. With things moving so quickly, your kit is likely to be out of date in that time frame, so plan to make the most of it while it’s cutting edge.”

“I would also warn against buying technology for its own sake. It’s important to understand your motives before picking what kit to invest in - consider the uses and impacts specific to you. Remember that the data is only worth gathering if you’re going to use it to make informed business decisions.”

## AUTONOMOUS TRACTORS – READY OR NOT?



Source: NFU Mutual Voice of the Farmer UK farmer survey 2019

# AUTONOMOUS TRACTORS: COSTS REMAIN A MAJOR CHALLENGE

**The prospect of teams of autonomous tractors working the nation's fields is fast becoming a technical reality – but costs and integration remains a major challenge.**

While basic self-driving tractors have been trialled for decades, advances in global positioning systems (GPS), and sophisticated technology, have only recently made them a practical proposition.

Harper Adams University's 'Hands Free Hectare' project has shown that it is now possible for autonomous machines to carry out a full range of arable field operations. The major challenge ahead is to make these systems affordable and simple to integrate into farms' existing data collection and management structures.

As autonomous tractors and the present generation of semi-autonomous tractors harness the latest GPS technology, a range of possible applications to boost operational efficiency are now available. These range from eliminating human error, such as steer-assist, to driverless solutions.

Already deployed effectively as a visual aid to optimal cross-field routes, sophisticated GPS guidance provides accuracy for field operations.

For farmers wishing to avoid the fully autonomous route (from a quality assurance perspective) there are operator-assisted autonomy programmes for farm machinery.

One example is Fendt's Guide Connect, a tandem driving system whereby the rear tractor works at an offset, following the operator-driven lead tractor in tandem. In other systems, the tractor drives itself, allowing the operator to focus on the implement behind.

Historically, the largest area of development for tractor implements has been through variable rate application systems for fertiliser spreaders and sprayers. These are designed to increase overall efficiency.

Autonomation of both tractors and implements offers substantial potential benefits, including higher productivity, inputs and fuel waste reduction, crop treatments and reduced soil compaction.

From an environmental point of view, alternative fuel sources are another promising area of research and development. These include electric powered tractors, through both cable and batteries, led by John Deere, as shown in the picture below. Hydrogen powered tractors are also being developed by New Holland.



# TECHNOLOGY COULD BE THE SAVIOUR OF FAMILY FARMS



Simon Thelwell  
Associate Head  
of Business  
Management,  
Agribusiness and  
Agrifood Marketing,  
Harper Adams  
University

While around 60% of UK farmers already use some sort of precision agriculture on their farms, many farmers are still cautious about the approach and the viability of investing in new technology.

There is no doubt that there are many benefits, including reduced input costs (fertiliser, seeds, fuel, water) as well as the potential for increased outputs, reduced workload and environmental benefits. But there are barriers to adoption.

Recent reports have explored the uptake of satellite-enabled agri-tech and found that the initial start-up costs, and unreliable mobile signals on farmland, are reasons given for not planning to, or having stopped using, technology.

The new wave of smart machines has the potential to revolutionise the way in which crops are grown, and animals are bred, housed and fed, by using targeted inputs and the intelligent use of sensors.

Those benefiting most from this new agricultural revolution are not only the biggest farms but small family-run farms. Given the UK agricultural sector is comprised mainly of family farms, there is huge potential for precision agriculture to take hold. This could transform the outlook for many British family farms who may face many challenges if pressure on inputs increases and volatility in the commodity market continues.

Precision agriculture could therefore change the fortunes of the UK family farm, if they can justify the investment, get the machines connected and working properly, and interpret the data to make better decisions. Harper Adams is helping farmers to overcome some of these issues and fulfil their precision vision with their new training course for farmers and agribusiness managers. Sponsored by NFU Mutual, the course is run over three weeks with a visit to the Netherlands included. For more information visit the Harper Adams website at [harper.ac.uk/apta](http://harper.ac.uk/apta)



# TECHNOLOGY POSES AN EXCITING CHALLENGE FOR YOUNG FARMERS



**Gregor Belcher**  
Applied Farm  
Management and  
Agriculture student,  
Royal Agricultural  
University,  
Cirencester

**The UK's agricultural colleges and universities are at the forefront of the challenge to equip the next generation of farmers with the skills to use agri-tech effectively.**

NFU Mutual is working closely with leading agricultural universities and colleges to help them deliver training programmes on the latest technological developments and the technical and management skills needed to operate them.

Twenty-two-year-old Gregor is studying agri-tech as part of his degree course. He helped research the emerging agri-tech featured in this report and here shares his views from a student's perspective.

“Many of the agri-tech developments happening across agricultural sectors and farms around the world are being driven by younger, progressive farmers. They are excited by the opportunities ahead and are entering the industry as decision makers and business managers.”

“For students and young farmers, every day brings news of new developments - more advanced precision technology to regulate applications of crop treatments, livestock monitoring and tracking systems, new and better robots,

more efficient autonomous tractors and software to manage the huge amounts of data.”

“While it's often easy to see the potential benefits agri-tech can bring for productivity, efficiency and environmental protection, it's much harder to understand how they can be successfully integrated into farm businesses and supply chains - and how much they will cost!”

“While young farmers and new entrants may be more willing to accept and promote change, control over an existing farm's finances or access to funding for a new farm business is one of the greatest challenges. This is why it is so important to strike the right balance between having the practical understanding of traditional farming and developing the business skills to implement agri-tech solutions.”

“It's an important balance because if you don't have a thorough knowledge of farming, you won't be able to decide which innovations will work and fit into the complicated structure of a farm business. If you don't have the business knowledge, you won't be able to invest in products that will allow you to compete on a commercial scale.”

# INSURANCE AND RISK MANAGEMENT FOR AGRI-TECH



Charlie Yorke  
Technology  
Insurance Specialist,  
NFU Mutual

Farming technology is changing the industry. This creates both opportunities and risks for farming businesses, challenging the way we think about our farms and the role of farmers. Effective insurance and risk management will continue to be vital considerations when protecting your business – whether this is from damage to property or from liability claims made against you.

## GETTING STARTED

Farmers face a new set of risks and responsibilities when they adopt new methods and technology. As soon as you plan to invest in precision technology, contact your insurer so they can work with you to support business plans and assist with the solutions required. This will provide reassurance on start-up as well as ongoing costs and safety features.

## YOUR TEAM

The adoption of robotics and autonomous plant could reduce the number of accidents and employee insurance claims. However, new technology could present gaps in your team's knowledge and understanding of how to operate and

control a machine or system. Make sure you budget for training and upskilling your family and workers.

An unsafe working environment poses risks to your workforce, notwithstanding the fact that your technology may be located on a busy, working farm. With this in mind, employers' liability insurance is a legal requirement for most businesses, regardless of whether it just involves family members or employs permanent and seasonal workers.

## RISK MANAGEMENT

Risk management service providers can review safety processes and train employees to ensure compliance with health and safety regulations. If your system includes pressurised and lifting equipment, it will require mandatory inspection under the Pressure Systems Safety Regulations (2000) and Lifting Operations and Lifting Equipment Regulations (1998).

When investing in precision technology, a change of systems can require a significant investment in new stock, machines, equipment and





even buildings. Discuss plans with your installer and insurer, to ensure the rough costs of both establishing and insuring your new venture are understood up-front.

### **UNDERINSURANCE**

As you purchase or lease new equipment, the way your farm operates and your property needs may change. Without the correct valuation advice, this can increase your risk of underinsurance. This means that if you do not have the correct amount of insurance in place, the amount you are paid if you make a claim could be reduced. Remember, policies generally require you to regularly assess how much insurance you need, and inform the insurer if any changes are required.

### **SECURITY**

Having more technology on your farm may attract thieves looking for high-value items which could be sold on, but it can also be used to combat crime. Ensure you regularly review and consider security measures (e.g. alarms, trackers, CCTV etc.) that could reduce your premium, and the threat of rural crime.

### **CYBER ATTACKS**

As today's world becomes more reliant upon connected technology, the risk of damage caused to the business by cyber-attacks or nefarious uses of machines and systems increases.

Any business which collects data faces an increasing threat from cyber attacks. A 2018 UK Government commissioned survey found that

the average cost of a cyber security breach is £3,100 for businesses, and £1,030 for charities. This is much higher for medium-sized businesses (£16,100) and large businesses (£22,300).

The long-term reputational damage to a business can be far greater. Consider your devices that are connected to the internet or other networks, and ensure data is protected against any cyber attacks which may affect your operating or management systems. Cyber insurance policies usually provide for defence costs and damages, costs of notifying people affected by any breach and public relations consultancy to contain reputational damage.

### **REMEMBER**

Always check your existing farm insurance cover before adopting new technology or processes. A huge amount of time and energy goes into making a business successful, so it is important to maintain a focus on the agricultural side of your business too. Although the hazards may be different, many of the insurance covers and risk management measures mentioned above are just as important to protect your farm's staff, buildings and equipment.

Reducing cover only makes sense if you are undertaking fewer farming activities following the installation or adoption of new technology, so regularly seek advice on how policies could meet your changing needs, and avoid underinsurance.

# THE UK'S LEADING RURAL INSURER

NFU Mutual offers a wide range of insurance for farms, homes and businesses, as well as life, pensions and investment products. These products and services are delivered through our agency network, as well as through a direct sales and service centre. With over 300 offices located in rural towns and villages throughout the UK, NFU Mutual has become part of the fabric of rural life and remains committed to serving the needs of people who visit, live or work in the countryside.

NFU Mutual delivers more than simply insurance and is working closely with scientists, agricultural colleges and tech companies to help our members make the right choices to farm sustainably, profitably and safely.

For more information on our insights into the development and adoption of agri-tech visit:

[nfumutual.co.uk/agri-tech](https://nfumutual.co.uk/agri-tech)

[nfumutual.co.uk/innovation-blog](https://nfumutual.co.uk/innovation-blog)

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