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# FRUIT

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issue

October 2017

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# OPINION

With most apple and pear crops safely gathered in, the emphasis must turn to marketing. A much better position compared with last year, due the significantly reduced European crop, means that prices should stay firm. What a pity that finding a long-term replacement for Adrian Barlow at the helm of EAP has been unsuccessful, and publicity this autumn seems to be low-key or non-existent. The National Fruit Show always raises the profile of our industry in the media, so although a week later, the media spotlight should be on home-grown apples and pears by late October. Introductions to what's on at the Show in this issue will help you to plan your visit and whet the appetite for new developments and products.

Growing quality crops requires both learning from the past and focusing on new ideas that may revolutionise what we can achieve in the future. 'The answer lies in the soil' is an old adage that must never be forgotten. The GREAT Soils project has a part in improving top-fruit soils and, with SMART soil-mapping, were among the approaches highlighted on a visit to Loddington Farm in Kent reported this month. The research results from two PhD students investigating SWD control have helped to target further research that could lead, amongst other strategies, to using viruses to rid us of this pest; a host of viruses have been found that infect *D. suzukii* in the wild. This is exciting, because many of them are new to science and may potentially contain untapped potential as biological control agents. This is painstaking work and over 3,000 flies were sampled over three years to obtain the results.

For another glimpse into the future, growers attending the Gala Club's Pre-Harvest Farm Walk were introduced to an exciting new technology, namely the UAV (unmanned aerial vehicle) or drone. When combined with other technologies such as LIDAR and soil mapping, drones could make a huge contribution to improved crop estimation, as well as fertiliser application, disease monitoring, predator applications, and especially the incidence of canker or the emergence of, for example, Parry's Disease in a pear orchard.

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## Construction of major new soft fruit packhouse underway

The start of construction work on a new £18m fruit packhouse in Kent is a major vote of confidence in the county's fruit industry.

Mayor of Maidstone, Cllr Malcolm Greer, formally got construction under way when he dug the first turf at a ground-breaking ceremony on 28 September, with Jacqui Green, CEO of Berry Gardens, also in attendance. The development will safeguard 434 existing jobs and create a further 500.

Located on a 25-acre site at Linton, near Maidstone, the 13,991 sq.m packhouse with 12 loading bays is being developed by Alan Firmin Ltd for Berry Gardens. The new building will also include 4,542 sq.m of office space for Berry Gardens, the grower-owned fruit marketing co-operative, based near Tonbridge, Kent. Cllr Greer said: "This is an important investment for Maidstone and sends a positive, confident message about the prospects for the area's fruit industry. It's a privilege to get work started."

Michael Firmin, Managing Director of Alan Firmin, said: "We are delighted to be commencing work on this purpose-built, high-quality facility. We and Berry Gardens have a long track record of working together, and we are very pleased to be able



An artist's impression of the new Berry Gardens packhouse at Linton near Maidstone, Kent.

to assist again with their expansion plans."

Nick Allen, Berry Gardens' Chief Operating Officer, added: "Today marks an exciting development in Berry Gardens' history. The construction of the new head office and packing facility will ensure that we continue to meet the challenges of our thriving market and create sustainable local employment." During the two years it will take to build the packhouse, 100 jobs will be directly created, with a further 60 jobs indirectly supported through the supply chain.

Recognising the building's rural location, Alan Firmin Ltd has specified that the development will

incorporate an 8.9ha landscape and ecological enhancement area. Nearly 3.5ha of the area will recreate Low Weald wildwood, this is a habitat largely lost from the area, plus a further 2.4ha of traditional wetland and floodplain grassland, a rare wildlife habitat in Kent. Nearly 500m of new hedgerows will be planted, as well as new woodland using native species.

The building will incorporate 650 sq.m of solar PV panels and deliver 30% improvements in carbon dioxide emissions over those required by building regulations.



(Left to right) Michael Firmin of Alan Firmin Ltd; Mayor of Maidstone, Cllr Malcolm Greer; and CEO of Berry Gardens, Jacqui Green.



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## Thatchers' Redstreak Cider named the world's best

Thatchers Redstreak Cider has been named the best sparkling cider in the world in the recent World Cider Awards 2017. Redstreak, part of the Thatchers Cider Barn range, is an 8.4% single variety cider made from local Somerset Redstreak apples.

To create the Cider Barn range, cidemakers at Somerset-based Thatchers use their knowledge of apples to work with a single variety, or combine two varieties together that balance and complement each other. The Somerset Redstreak bittersweet apple is high in tannin and big on flavour, creating the Redstreak Cider that is bold and peppery, with a spicy apple pie flavour, smooth feel and deep rich colour. The traditional cuvege technique has been used for this cider, where the apples are milled and then held for a day before pressing out the juice, so developing the best flavour for this variety.

Thatchers also scooped two other titles in the World Cider Awards – this time for design. Stan's Barrel Roller was awarded the World's Best Cider Can Design, and Thatchers Vintage was awarded silver medal for its new bottle label.

Martin Thatcher, fourth generation cidemaker says, "Being able to produce limited edition ciders with some of our favourite apple varieties from each harvest is a real joy. We're absolutely delighted that the judges chose Redstreak as the

World's Best Sparkling Cider. Winning an award such as this is a real accolade for the whole team at Thatchers. For the judges to single out Redstreak from the other very worthy entries from across the world is testament to the skills and passion for innovation that our cidemakers have been honing over many years."

Thatchers Cider Barn Redstreak is a limited-edition cider. The new batch made from the 2017 harvest will be available by the end of October in Thatchers Cider Shop at Myrtle Farm, Sandford, Somerset, or online at [www.thatcherscider.co.uk](http://www.thatcherscider.co.uk)



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## Claire Whiddon 1953 – 2017

Fruit grower, Claire Whiddon, formerly of Home Farm, Wateringbury, has died following a lengthy battle with throat cancer. She leaves behind a legacy of attention-to-detail in all that she undertook. Having been brought up on a poultry and fruit farm at Otham near Maidstone, Kent she initially trained in arts and design in London, gaining a BA and then an MA in Industrial Design. She enjoyed a successful career with Eurotunnel in the 1980s in their public relations department, where her work was highly regarded by Eurotunnel's CEO Alistair Morton.

Claire later brought her diverse talents to fruit growing, having met David Quarington, who was by then an established fruit grower. They eventually settled at Home Farm, Wateringbury, Kent where, amongst many other duties, she masterminded the welfare and management of their harvest team. She was a keen supporter of fruit growing and whilst David, coming initially from the oil industry, had a toehold in fruit growing at Swattenden Farm, Cranbrook, where they first met, Claire addressed the needs of the business at that time. She won prizes in the NFU's Paddock Wood Orchard Management Competition, a fiercely competitive 'whole-farm' competition rewarding excellence in fruit growing. Home Farm received substantial investment, undergoing a complete makeover that brought success in many areas. Claire was Tesco Grower of the Year in 2004, and a member of FGA, that later became part of Avalon Produce, through which she marketed her fruit, and was seen at many farm walks and demonstrations. She and David married in 2016.



**Claire Whiddon was a keen supporter of the NFU Paddock Wood Orchard Management Competition, enjoying success over many years with David Quarington.**

## Alan Furneaux 1940 – 2017

Alan Furneaux, was the son of the legendary 'soil guru' Basil (Sydney) Furneaux and, whilst being born in Wye, Kent and training at Writtle College in Essex, he worked in Kent and Sussex. He worked with his father throughout his life, Basil having worked for War-Ag at Wye during the Second World War, then moving to Brenchley. Alan held Adrian Scripps and Raymond Wickham in high regard, joining his father at Tunbridge Wells, Kent and finally at Crowborough, East Sussex. In his later years he diversified into viticulture, making contributions to the emerging UK wine industry in the south of England.

Sadly, Basil having retired in the early 1970s, the Furneaux files and records have been discontinued, they being a unique legacy of both father and son. Alan was seen occasionally in Kent, speaking at a BIFGA Technical Day several years ago. A keen member of Ramblers International, he found himself in many corners of the world, enjoying the local geography.

He was a dedicated gardener, loved maps and footpaths, and lived all his married life in Crowborough. He leaves a widow.



**Soils expert Alan Furneaux was familiar with the soils of most of the fruit and vineyard sites in the South of England, following a lifetime's work with growers.**

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## Jam-packed agenda for soft fruit event

A new device to monitor western flower thrips, latest research on spotted wing drosophila (SWD) and control strategies for strawberry powdery mildew are just some of the topics to be discussed at the AHDB Horticulture/EMR Association's annual Soft Fruit Day in November.

The conference has been confirmed for 21 November 2017 at East Malling, Kent to deliver a technical update for the soft fruit industry. Industry specialists will update growers and agronomists on the latest results from research projects funded by AHDB to help keep the soft fruit industry resilient to pest and disease. Presentations will also share the latest innovation and developments in breeding programmes, irrigation and pollination.

Scott Raffle, knowledge exchange manager, AHDB Horticulture, said: "We have a jam-packed agenda that will

showcase the progress our research programmes are making to tackle the most pressing issues facing the soft fruit industry.

Developments for the control of SWD will be a high priority for many growers, but we'll also be examining the potential threat posed by rose thrips and looking at new strategies to increase the presence of several beneficial predators in crops."

To book your place, visit [horticulture.ahdb.org.uk/events](http://horticulture.ahdb.org.uk/events)



## Expansion for Kent fruit-growing business

AC Goatham & Son has expanded its fruit growing business with the acquisition of eight new farms in Medway and Swale in Kent, and the East Kent Storage cold storage facility in Faversham. The business now farms over 2,650 acres of orchards growing twelve varieties of apples and three of pears.

Ross Goatham, Managing Director at AC Goatham & Son comments: "We have taken the opportunity to acquire several new sites that came onto the market this year and which are close to our existing sites. Over the last year, we have seen significant interest from British consumers for British-grown top-fruit. We are continuously working with our partner growers and customers towards providing a secure and sustainable supply for the future. This will be done by securing more orchard sites and, over time, replanting with new and more efficient growing systems. By 2020 we will have planted over two million new fruit trees. Despite a difficult growing season, the 2017 harvest started early and has been progressing well and we aim to have

this finished by mid/late October."

AC Goatham & Son was shortlisted for a Farmers Weekly Award, Specialist Crop Grower of the year, which was announced on Thursday 5 October.

The award can be entered by any farmer across the UK and AC Goatham & Son is one of three finalists.

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## King of the Netherlands attends Koppert Jubilee celebrations

King Willem-Alexander opened Koppert's new Information Centre at Berkel en Rodenrijs, The Netherlands on 14 September to mark the company's 50th anniversary. Directors Paul Koppert and Henri Oosthoek led the King through the Experience Centre and displays of insects, mites and microbiological solutions that the company produces and markets to the agricultural and horticultural industries. King Willem-Alexander afterwards attended the start of the international 'Partners with Nature Seminar' organised by Koppert as part of the day. More than 700 international guests were at the Seminar.

The 200 sq metre Centre, opened by the King, informs visitors about all aspects of biological protection. In an interactive way, growers, research institute representatives and relevant authorities from The Netherlands and around the world, can learn more about the vision of the family company, the research and development of biological crop protection, and Koppert production processes. Visitors can also view natural enemies as well as bumblebees and microbiological solutions.



King Willem-Alexander of Holland opened Koppert Biological Systems' new 'Experience Centre' in Holland as part of the company's 50th anniversary celebrations.

## UK-grown watermelons produced for ASDA

Asda has this summer grown 1,000 watermelons - an exotic fruit that wouldn't normally grow on UK soil - in a bid to continue championing local produce, and provide consumers with quality, fresh produce all-year-round.

Grown in Kent, the crop is the largest volume of watermelons ever produced on UK soil, with the cooler, wetter weather traditionally creating difficult growing conditions. To ensure that shoppers can enjoy locally-grown watermelons, Asda and its growers have implemented innovative growing techniques that negate the need for consistently warm weather. Replicating European-grown fruit, the melons have been cultivated in polytunnels with insulated soil, so that heat is created naturally, helping to produce deliciously sweet melons.

Joe Cottingham, Asda's watermelon grower, comments:

"We're always looking at ways in which we can adopt innovative growing techniques to try and become more self-sufficient here in the UK, and provide customers with more choice when it comes to the British produce they see on the supermarket shelf. We're proud to have worked closely with Asda to grow 1,000 British watermelons in a climate

traditionally unsuitable for the fruit." In addition to the locally-grown melons, Asda predicts that over two million watermelons will be sold this year, confirming the nation's taste for the refreshing fruit.



Joe Cottingham, Asda's watermelon grower.

Also, set to be available in 2018, Joe Cottingham has successfully grown 300 yellow-fleshed watermelons, that have the same taste and consistency as their red counterpart.

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## Crop Solutions opens new warehouse near Boston, Lincolnshire

Crop Solutions Ltd, the UK's leading supplier of crop covers and crop covering machinery, has finalised a deal with Mason Brothers to provide a new warehouse facility near Boston, Lincolnshire.

Mason Bros, who run a large cold storage, grading and transport operation near Swineshead, recently acquired a modern warehousing facility formerly known as P. F. Booth & Son, and it is at this new site that Crop Solutions will establish a depot.

Managing Director of Crop Solutions Ian Campbell commented, "We work very hard to provide our customers with a professional and efficient service at all times. This new facility will help us reduce lead times and transport costs for all our customers in England".

Geoff Wright, based in Lincolnshire and Area Manager with Crop Solutions, was at Masons to see the first delivery of stock arrive. "This new deal with Masons for storage and transport gives us a real local presence," he said.

As well as opening the new warehouse, October sees Crop Solutions celebrating its 10th anniversary in the crop



cover industry. Over the past 10 years the company has built a solid reputation for supplying high quality covers, excellent service, competitive pricing and honest advice. To ensure that the company continues to deliver these values during the next 10 years, it has recently invested in four new staff members.

Ian Campbell said, "The new team that has joined during the past 18 months comes with a very strong background in agriculture. This is a huge benefit for our customers as the team both enjoys and understands farming and all that goes with it." Having more staff has enabled the company to concentrate on targeting new areas, none more so than the fruit-growing sector. A new truss support tape launched in 2017, fleece to protect early fruit from frost, and ground cover, are some of the products on offer.

With increasing problems associated with spotted wing drosophila (SWD) in recent years, Crop Solutions is working closely with fruit growers to trial different methods of offering protection to their crops. The aim is to tailor products to suit the fruit industry and their growing systems. The team at Crop Solutions looks forward to discussing your requirements for the coming season.



Left to right: Neil Frestle, Simon Mason and Geoff Wright of Crop Solutions.



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## Pessl Instruments moving into the fruit industry with partner N P Seymour Ltd

Pessl Instruments, a leading company in the field of automatic field monitoring that has been in business for 32 years, is entering the fruit industry and will be doing so in partnership with NP Seymour Ltd. The partnership provides an opportunity to shape the industry together.

The two companies will jointly exhibit their products at the National Fruit Show, where visitors will have the opportunity to see Pessl Instruments systems in action.

The products on show will include:

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An iMETOS IMT300 weather station.

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- A CropVIEW field camera with up to two lenses (wide angle and zoom) for remote monitoring with daily images.
- An iSCOUT insect monitoring system with a camera for a variety of trapable pests.

The founder and CEO of Pessl Instruments, Gottfried Pessl, will be at the Show to answer visitors' questions.



An iSCOUT insect monitoring system.

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# National Fruit Show 2017

**Wednesday 25 October - 10.00 am to 5.30 pm**  
**OrchardWorld Champagne Reception: 6.30 pm**  
**Show Dinner: 7.30 pm**  
**Thursday 26 October - 10.00 am to 3.30 pm**  
**Prizegiving: 12.30 pm**  
**Venue: The Kent Event Centre, Kent Showground, Detling, Maidstone, Kent, ME14 3JF. Located between the M2 and M20 on the A249 at Detling.**

The 84th National Fruit Show will be held on 25 and 26 October and will take place at the Kent Event Centre, Detling near Maidstone, Kent. In response to the impact of adverse weather this season, Chairman of Judges Brian Tompsett has relaxed the rules on fruit size for this year, allowing larger fruit than usual to be entered into most classes.

Sarah Calcutt, Chairman of the Marden Fruit Show Society said, "Blossom was hit in most growing regions this year by several nights of frost, the damage was patchy, but coupled with very low average temperatures in the following



days, this has meant that a full fruit set was not achieved in certain regions, and consequently fruit is larger on many farms. Sadly, there is also evidence of frost damage on the skin of many apples. The marketing desks have been working hard with their retail partners to ensure that as much fruit as possible makes it onto retailers' shelves this year".

The good news for consumers and for the Tastiest Apple Competition, sponsored by *The Fruit Grower*, is that the flavour profile this year is very good. The recent warm weather has made a difference and great flavour is predicted across all varieties. Cox, particularly, is looking good for this season with an excellent finish. Gala and Braeburn, the UK's top selling varieties, will prove to be of excellent quality this year and the National Fruit Show organisers are hoping that a good number of the new varieties will be entered into Class 12 'Any Other Variety of Dessert Apple'.

Sarah Calcutt explained, "There are some very exciting new apples around and the National Fruit Show is the first time that much of the industry will see them. I hope that a lot of the Club apple varieties will be entered this season to show how strong they are; there is a good crop across

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many of the more commercial new varieties, and this could be reflected in the display”.

Growing top-fruit in the UK, like many other crops, has seen a major transformation over the past decade, the biggest change having been advances in orchard design, harvesting technology and new varieties, to meet the needs of consumers. The National Fruit Show recognises the importance of many of these new varieties and several now have their own competition classes. Rubens®, Jazz™ and Cameo are now firm favourites with UK consumers.

Brian Tompsett, Chairman of Judges said, “The huge variety of fruit we grow commercially in the UK makes for a wonderful display and highlights the change in consumer preferences. Our expert panel of Judges has a difficult job, as the new disease-resistant varieties and recent innovations in growing techniques make their job ever more challenging”. The competition fruit is judged by 24 industry experts, on six criteria and awarded a total out of 100 points. The judges look for the fruit to be free of disease, pests, bruising and other damage for a total of 40 points. The remaining 60 points are awarded for the fruits internal condition, skin quality and uniformity of both size and colour. Each entry gaining 85 points or more is automatically entered once for every three entries from classes 1 to 19 into the prestigious Bonanza Prize Draw.

This year, the Bonanza Prize is sponsored by Greenyard



Fresh UK, part of the Greenyard Group, a global market leader in fresh and prepared fruits and vegetables, flowers and plants, fresh produce logistic services, and growing media. The company’s head office is located near Brussels. Greenyard Fresh UK was honoured with success at the Fresh Produce Consortium Awards in June this year, winning the Fresh Produce Business of the Year 2017 Award. The award was given to the very best performing business among all the category winners in the 2017 Fresh Award. The company gained recognition in the categories of

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The closing date for apple and pear classes is Monday 9

October; for cobnuts and walnuts, Friday 13 October; and for soft fruit, Friday 20 October; and entries for the Heaviest Apple and Pear competitions should be sent to the Marden Fruit Show Society by Wednesday 18 October. Growers can now enter online via the website for all the classes.

The two-day Show opens its doors at 10am on Wednesday 25 and Thursday 26 October. It closes at 5.30pm on the first day to allow ticket holders to get ready for the Show Dinner sponsored by Hadlow College, and the OrchardWorld drinks reception, with table wine sponsored by Whitehead Monckton. The prizegiving for fruit competition winners is at 12.30pm on Thursday 26 October and the Show will close after the prizegiving.

The Show will be opened by Minette Batters, NFU Deputy President. Minette grew up living and working on-farm, but it wasn't until 1998 that she was able to secure a long-term Farm Business Tenancy. She then built a business from nothing to over 300 head of stock, with a herd of pedigree Hereford cattle running alongside a herd of 100 Simmental-cross suckler cows. She specialises in selling premium store cattle, but runs a diversified, mixed farming business that includes horse livery, a wedding and corporate events venue, and a catering business specialising in home-grown produce. Minette co-founded the campaigning initiatives 'Ladies in Beef' and the 'Great British Beef Week'.

Maria Clarke, Show Organiser, said "We have moved the Show Dinner back to the Clive Emson building to allow more space for stands, as last year closing off part of the Hendry Pavilion for the Dinner meant compromising the amount of available stand space. We are expanding each year, so we want to be able to offer a greater choice of stand sizes".

Around 90 organisations, businesses and companies have booked to exhibit at this year's Show, and there are several new exhibitors in 2017. These include Hans Wanner GmbH, a German producer of vineyard and orchard sprayers, Engage Agro Europe Ltd will be exhibiting their range of fertilisers and crop enhancing

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**NEW**  
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Options

**Landini**





products, and Storage Control Systems Ltd of Paddock Wood will be available to talk to growers about storage solutions. WH Skinner and Sons is a long-established agricultural/arboricultural contracting business based in Kent, their wide range of services includes orchard



grubbing, windbreak removal, tree removal, cultivations, timber extraction, farm road building, excavations and trenching.

The Show also welcomes two bulk-bin manufacturers - Dawid Kudelka from Poland and Inka Pallets from Essex, as well as two new refrigeration companies - JD Cooling (stand S63 and S64) and Orchard Cooling (stand S72). Long-term storage and refrigeration solutions are an essential part of marketing quality fruit.

This year the major sponsors are Avalon Produce Limited, BASF, Agrovista and, new for 2017, NP Seymour Ltd. Sarah Calcutt said, "These four companies are vitally important and we are grateful that they provide support each year. NP Seymour Ltd has exhibited at the Show for many years and we are delighted that they have joined as a major sponsor".

Visitors to the National Fruit Show can register and print their entry badge online by visiting the website [www.nationalfruitshow.org.uk](http://www.nationalfruitshow.org.uk). Maria Clarke explained, "We have introduced this new facility to enable a smoother entry process for our visitors. Filling in the new digital registration form allows for free and fast entry and the ability to print a visitor badge ahead of their visit. Visitors will only need to pick up a badge holder instead of waiting to fill in the form on arrival". ◆

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# DCA-CF 2018

## Growing UK's Long Term Storage



## Numerical Exhibitor Listing

### Maidstone Exhibition Hall

<b>K1</b>	BIFGA	<b>S41</b>	Fargro Ltd
<b>K2</b>	JR Breach	<b>S42</b>	AHDB Horticulture
<b>K3</b>	Bourne Engineering	<b>S43</b>	Scorpion Engineering Construction Ltd
<b>K4</b>	Agricare	<b>S44</b>	FAST LLP
<b>K5</b>	Burden Bros Agri Ltd	<b>S45</b>	Tree Nursery Roelofs B.V.
<b>K6</b>	Schillinger GmbH	<b>S46</b>	T-mex Express
<b>K8</b>	Kent Fruit Services Ltd	<b>S47</b>	Storage Control Systems Ltd
<b>K9</b>	Burg Machinefabriek B.V.	<b>S48</b>	JANNY MT Controlled Atmosphere
<b>K10</b>	Fruit Security Holland	<b>S49</b>	Kreston Reeves
<b>K11</b>	FS Europe bv	<b>S50</b>	NIAB EMR
<b>K12</b>	Verbeek Nurseries	<b>S51</b>	<b>The Fruit Grower</b>
<b>K13</b>	Hol Spraying Systems	<b>S52</b>	Chase Organics Ltd
<b>K14</b>	Hans Wanner GmbH	<b>S53</b>	W H Skinner & Sons
<b>K15</b>	Horsepower UK Ltd	<b>S54</b>	Dawid Kudelka Wood Box
<b>K17</b>	Stilmer Sp.Zo.o.	<b>S55/S56</b>	Channel Weighing Ltd
<b>K18</b>	Engage Agro Europe Ltd	<b>S57</b>	New Leaf Irrigation Ltd
<b>K18a</b>	MAF RODA AGROBOTIC	<b>S58</b>	Stas Belgium nv
<b>K19</b>	H L Hutchinson Ltd & Produce Packaging Ltd	<b>S59</b>	Landseer Ltd
<b>K20</b>	Worldwide Fruit Limited	<b>S60</b>	Alltech UK Ltd
<b>K21</b>	Agrovista UK Ltd	<b>S61</b>	Tech Ltd
<b>K22</b>	Pro-Tech Marketing Ltd	<b>S62</b>	Weatherbys Hamilton LLP
<b>K23</b>	Core Equipment Ltd	<b>S63/S64</b>	JD Cooling Systems Limited
<b>K24</b>	Greenyard Fresh UK Ltd	<b>S65</b>	National Farmers Union
<b>K25</b>	Yara UK Limited	<b>S66</b>	Pointer Intelligent Agri-Systems Ltd
<b>K26</b>	South East Farmer	<b>S66a</b>	Inka Pallets Ltd
<b>K27</b>	Wealden AM	<b>S67</b>	Nufarm UK Ltd
<b>K28</b>	Haynes Agricultural Ltd	<b>S68</b>	Harzfloor Contracts Ltd
<b>K29</b>	Agrii	<b>S69</b>	Arysta LifeScience UK & Ireland Ltd
<b>K30</b>	N.P. Seymour Ltd	<b>S70</b>	Concordia (UK) Ltd
<b>K31</b>	BASF PLC	<b>S71</b>	Maxicrop (UK) Ltd
<b>K32</b>	Avalon Produce Ltd	<b>S72</b>	Orchard Cooling Limited
<b>K33</b>	Frank P Matthews Ltd and Botden & van Willegen	<b>S73</b>	Royal British Legion Industries
<b>K34</b>	Bayer CropScience Ltd	<b>S74</b>	Fresh Produce Journal
<b>S35</b>	AG Recruitment & Management	<b>S75</b>	John Bourne and Co Ltd
<b>S36</b>	English Apples and Pears Ltd	<b>S76</b>	The London Produce Show and Conference
<b>S37</b>	QCR	<b>S77</b>	White Land Solution Ltd
<b>S38</b>	The Worshipful Company of Fruiterers	<b>S77a</b>	Biddenden Vineyards
<b>S38a</b>	OnePay	<b>S78</b>	Affinitus Group
<b>S39</b>	ICL Specialty Fertilizers	<b>S79</b>	M J Timber Ltd
<b>S40</b>	Vitifruit Equipment	<b>S80</b>	New Spitalfields Market Tenants' Association Ltd

### John Hendry Pavilion

<b>H1/H2</b>	Kirkland UK	<b>H10</b>	Hadlow College
<b>H3/H4</b>	Prins Forklifts UK Ltd	<b>H13</b>	Grafter
<b>H5</b>	BASIS Registration Limited	<b>H15/H16</b>	Vigo Ltd
<b>H6</b>	CPRE Kent	<b>H17</b>	Castle Commercial Refrigeration Ltd
<b>H7</b>	Tastiest Apple	<b>H18/H19</b>	UKCA Ltd
<b>H8</b>	Stilmer Sp.Zo.o.		



## FAST LLP - Stand S44

**A unique team of specialist agronomists, FAST has been providing comprehensive advisory services to fruit growers throughout the UK since 1981.**

**Practical agronomy – tree, soft, stone fruit and blueberries**

**Advice on crop husbandry from planting to storage:**

All members of the advisory team have had practical experience of crop production and several of the team have been involved in managing horticultural enterprises. We endeavour to ensure that the advice offered is sound and practical.

**Site selection:** We offer advice on the best varieties and types for each site, taking account of soil type, altitude and aspect, and previous cropping. For soil-grown blueberries, site selection and preparation is crucial to maximise returns.

**Orchard design and covering systems:** We give comprehensive advice on modern planting systems to maximise returns, including the most economic cherry-covering systems to suit grower's requirements.

**Planting & crop establishment:** Guidance on selecting the best plant type for the growing system and ensuring that the planting time matches the crop scheduling requirements of the farm.

**Tree/bush management:** Advice on pruning, tree training and the use of growth regulators to maintain optimum cropping of high quality fruit.

**Crop management:** To ensure that the correct crop load is carried each year, we provide advice on improving flower quality and fruit set and, if necessary, thinning.

**Crop nutrition:** Comprehensive advice based on regular soil, leaf and fruit analysis to include cost-efficient spray programmes to reduce pest and disease and to minimise the risk of detectable spray residues.

**Varieties:** Trials of varieties of plum, cherry and apple that have market potential are carried out on our research site at Faversham.

**Tree supplies:** We can supply a wide variety of fruit trees, and can advise and source modern rootstocks to suit growers' requirements.




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 Telephone: 0208 556 1479



### THE JEWEL IN THE CROWN



## Quality Fruit Trees

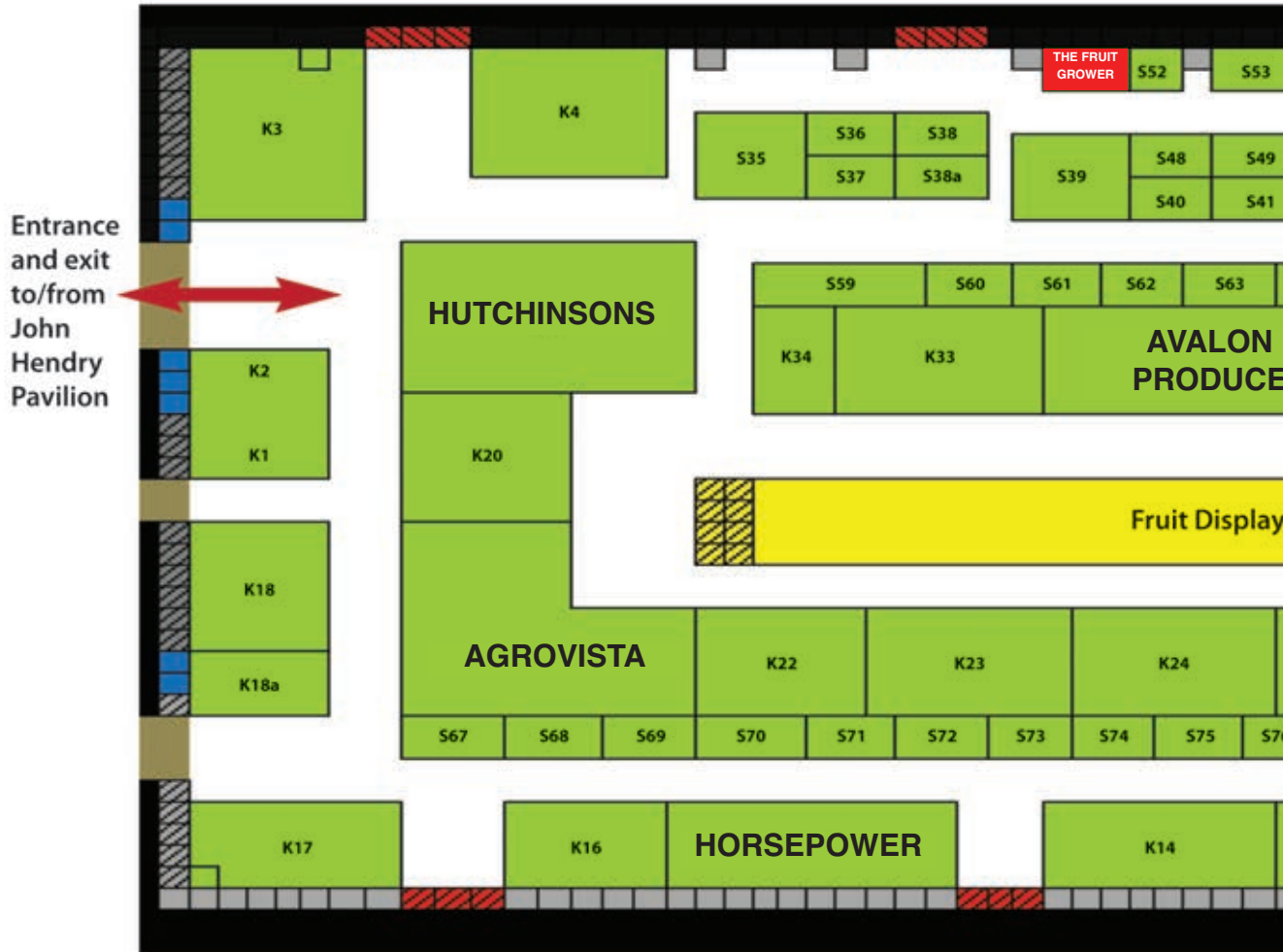
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- pear
- plum
- cherry
- apricot

**For more information on the varieties we can supply contact us on 01795 533225 or email [sales@fastllp.com](mailto:sales@fastllp.com)**

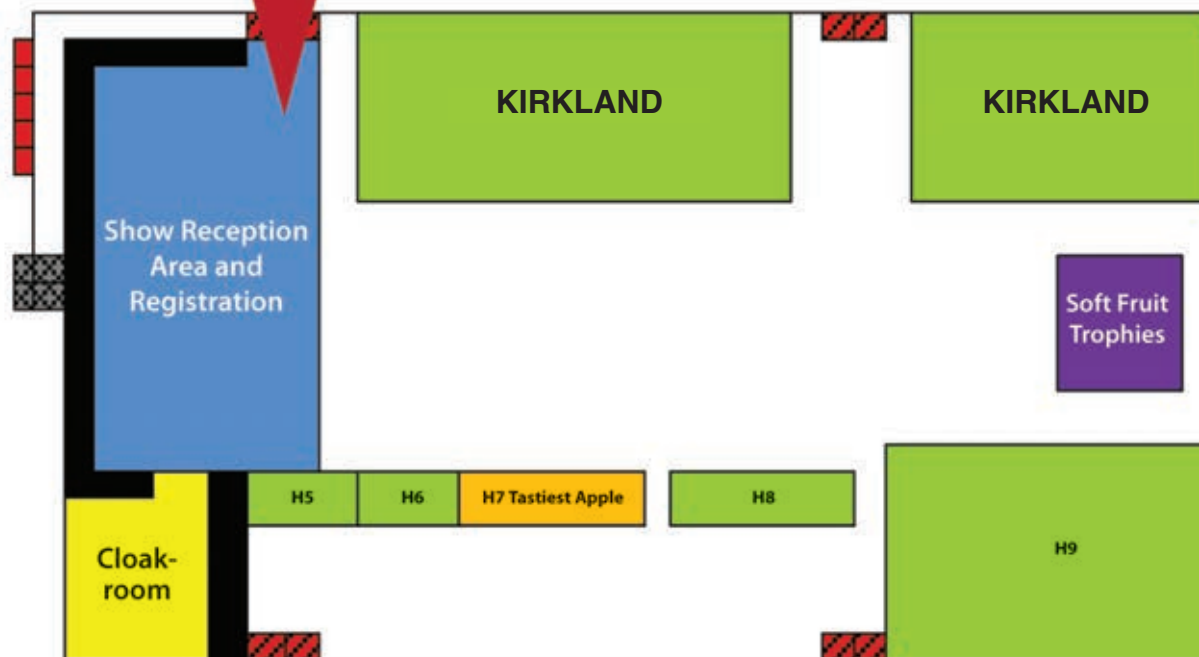
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**MAIDSTONE EXHIBITION**



Show Entrance from Car Park

**JOHN HENDRY EXHIBITION**

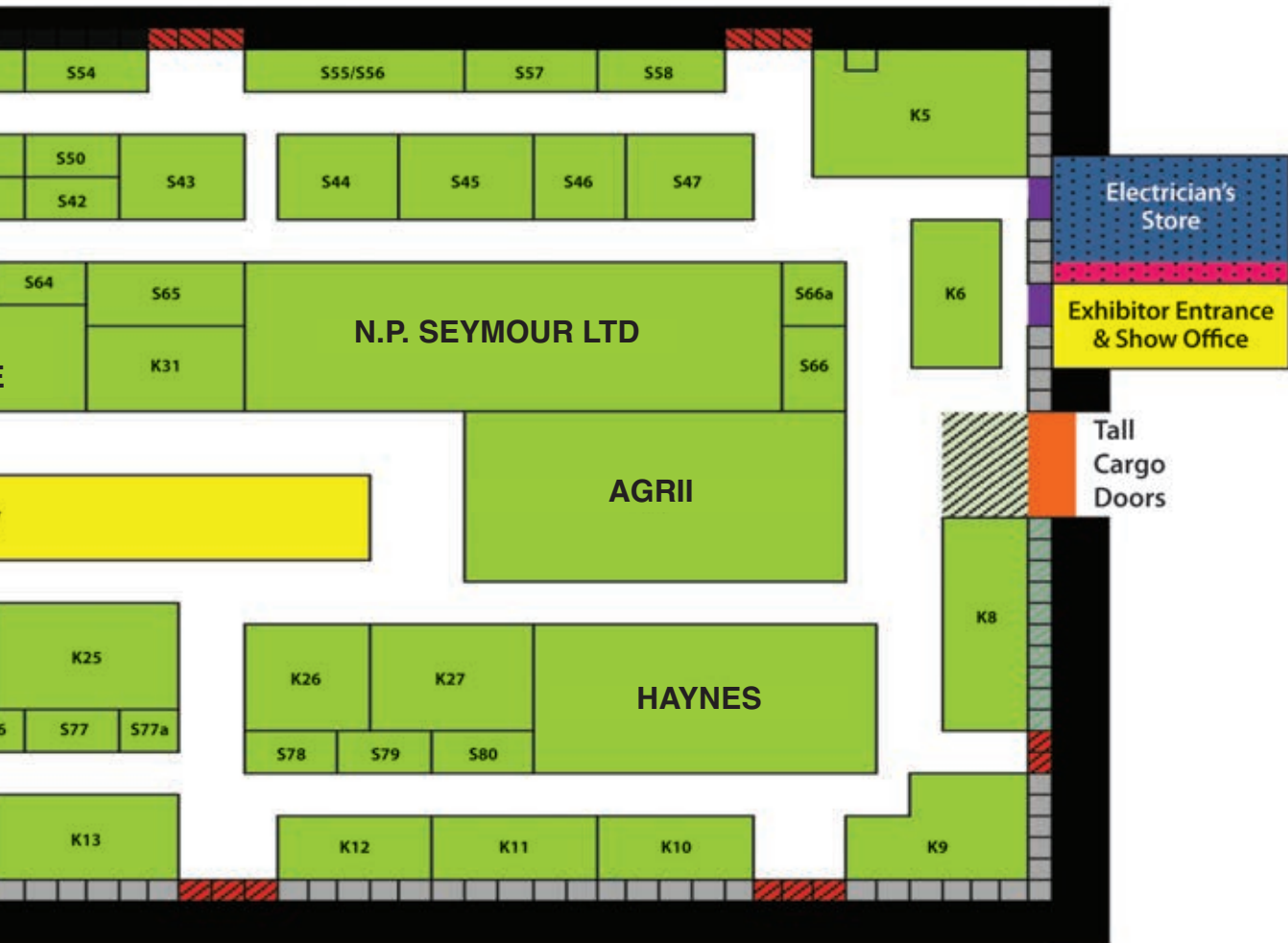


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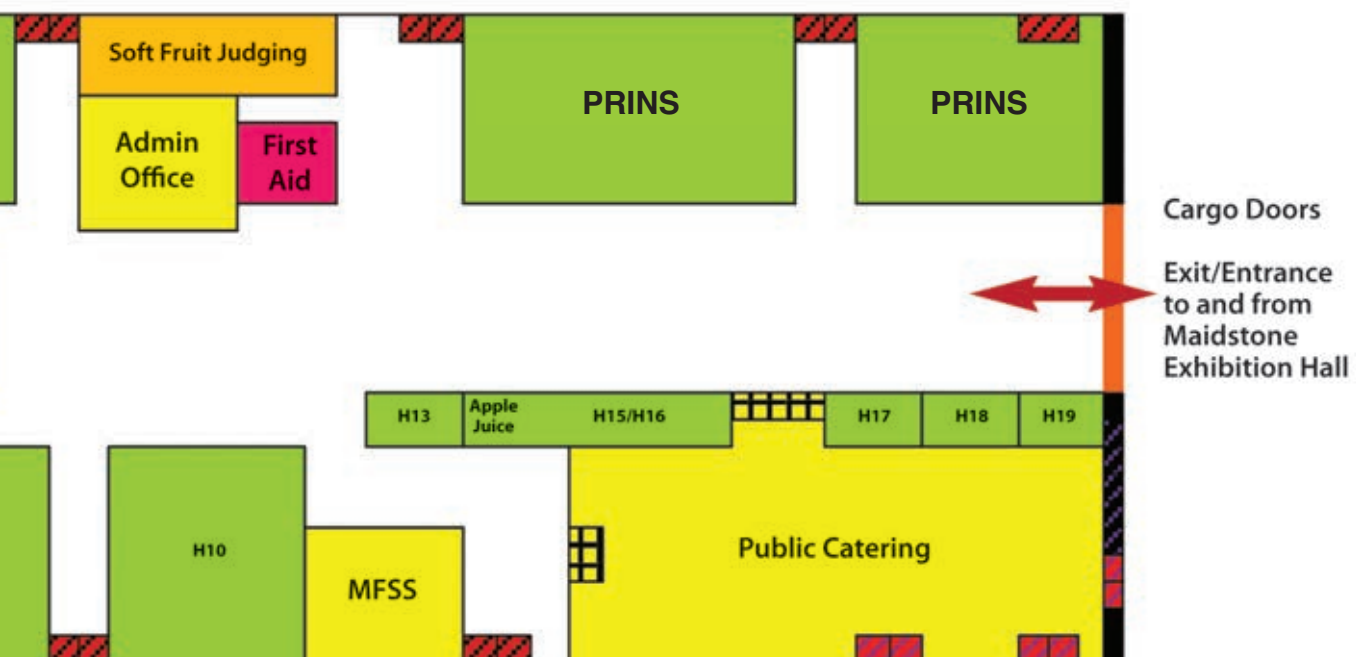


t Show – Floor Plan

**EXHIBITION HALL**



**PAVILION**



 location of Fire Exits

## Horsepower UK Ltd – Stand K15

### All-new Landini orchard tractors to debut at National Fruit Show

An all-new range of Landini orchard and vineyard tractors will be launched at the National Fruit Show.

The Rex 4 Series tractors have a sleek new appearance but, more importantly, they bring a greater choice of models, new transmission configurations – including three-speed powershift on power shuttle versions – an improved operator environment in the new cab, and optional front axle suspension for the first time.

Ray Spinks, general manager and sales director at AgriArgo UK, the Landini distributor for Great Britain and Ireland, says that the current Rex tractors have an enviable reputation for performance and durability, making them one of the most popular orchard tractors in the UK. “The all-new design has a hard act to follow, but we’re confident that the new features and wider model choice will be well received by growers,” he adds.

In terms of overall size, base configurations and power outputs, the new Landini Rex 4 Series mirrors the current Rex. The ‘F’ models are narrow orchard tractors, the ‘GE’ versions have a lower stance for added stability, and the ‘GT’ has the wider axles and larger wheel options suitable for wider orchard alleyways.

Minimum operating widths are 1.3m for the ‘F’, 1.35m for the ‘GE’ and 1.5m for the ‘GT’ versions, and the new ‘V’ models can be configured down to just 1m wide.

For Landini southern area sales manager Steve Cann, whose dealers Richard Tooby in Herefordshire, Horsepower in Kent and Culverwells in East Sussex and Kent are regular suppliers to the fruit sector, the availability of vineyard specification models across the new range is a welcome change. “With the current Rex we have just one model; but with the Rex 4 Series we have the same six power outputs from 69hp to 111hp as for the wider tractors,” he points out. A 2.9 litre compact four-



**The new Rex 4 Series vineyard models can be as little as 1m wide, even the 111hp version.**

cylinder engine provides the power, meeting emissions rules without resorting to exhaust filtration or urea injection, to keep installation and service requirements as simple as possible.

At the lower end of the range, 12-15% more torque will give the tractors livelier performance under load, while attractive fuel economy should be evident across the range. New Eco 40kph transmission and four-speed PTO options will also help in that respect, enabling growers to reduce running costs. At the same time, larger fuel tanks will enable the tractors to work longer between refills – especially the ‘F’ and ‘GT’ versions, which, at 90 litres, have almost 40% more fuel capacity.

A front axle suspension option will be available for the first time to give operators and equipment an easier ride both on and off-road, and Steve Cann believes that operators will also welcome the new cab design.

“Inside, the layout is all new, with gear and hydraulic spool valve levers falling more easily to hand and there’s a more cohesive arrangement of switches,” he points out. “A new instrument panel that moves with the angle-adjustable steering wheel also contributes to the more efficient and comfortable environment.”

The Landini engineers at manufacturer Argo Tractors have also managed to eliminate the transmission hump of the Rex on the new design, with a cab floor that is pretty much flat right across. “That will make getting in and out easier and be more comfortable when the driver is seated,” says Steve Cann. “An integrated joystick for hydraulic implement control and spool levers angled towards the driver will also make life more comfortable.”

The first of the new tractors, representing a range comprising 69hp, 76hp, 89hp, 95hp, 102hp and 111hp models, will be displayed at the National Fruit Show.



**Most powerful model in the ‘GT’ line-up – with the wider stance for maximum stability – is the 111hp Rex 4-120 GT.**



## New Spitalfields Market – Stand S80

New Spitalfields Market is the UK's premier horticultural market, and provides an excellent platform for businesses in the retail and food services sectors to develop. Based in East London, it serves London and the South East, and as far afield as Nottingham, Norfolk and Kent. Produce is sourced globally and 'seasonality', 'sustainability' and 'provenance' are key

words for all the businesses on-site. The market is served by a network of roads that efficiently link it to the Channel Tunnel, the ports of Harwich and Thames Gateway, and the London airports. With over 120 trading companies, it is a thriving and competitive place to do business and meets the demands of quality and choice expected by the retail sector.

## Agrovista – Stand K21

### New staff and novel products add to Agrovista's fruit expertise

Agrovista has strengthened its fruit agronomy team this season with the addition of two new members, David Taylor and Simon Warren. David is an experienced agronomist, based in Herefordshire, who previously worked at Berry Gardens advising on soft and stone fruit, and Kent-based Simon previously worked as a soft fruit farm manager for S&A Produce. This brings the number of qualified agronomists in Agrovista's fruit team to eight.

The youngest team member, Tom Johnson, has been developing a system that allows existing orchards to be inoculated with mycorrhiza. These soil-dwelling fungi attach to tree roots, resulting in an enormous expansion of the system, benefiting nutrient and water uptake, and resistance to pathogens. The system is mounted on a root-pruning machine. It can be combined with a root-pruning operation or as a straightforward inoculation system, by adjusting blade position. Agrovista is offering the inoculation service in partnership with Loddington Farms, and uses RGPro Horti, manufactured by Plantworks of Sittingbourne, Kent, which contains only pure mycorrhiza isolated from UK soils.

Alex Radu oversees Agrovista's Growers Choice Interactive (GCI), the web-based pest and disease forecasting service that uses on-farm weather stations and Rimpro software. GCI

supplies continuously updated information on scab infection periods and codling moth, as well as Neonectria and fireblight infections. This season we have introduced an additional GCI module that predicts flight activity, oviposition and larval emergence of apple sawfly. Effective control requires spraying just before larval emergence begins. Sprays are often applied between petal fall and very early fruitlet, which can be quite a wide window. But, using the sawfly model, it is possible to wait until the correct moment before treating, which has produced excellent results.

All members of the expanded team will be present on the Agrovista stand so please come and meet us and make use of our leading fruit agronomy expertise.



Agrovista has strengthened its fruit agronomy team this season with the addition of two new members, David Taylor (above left) and Simon Warren (above right).



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# Hutchinsons - Stand K19

## Helios – thinking outside the box

Hutchinsons are proud of the excellent specialist service they provide to fruit growers, but they are not resting on their laurels and continue to think ahead and outside the normal realms of agronomic advice by initiating and investing in a ground-breaking 10-year project for top fruit, called HELIOS (Hutchinsons Enhanced Light Interception Orchard System). The project is based on the simple premise that the ultimate yield of apples is relative to how much light the tree can get, explains Rob Saunders, one of their specialist agronomists.

He explains that Hutchinsons are setting up two orchards of Gala from scratch, one in the West Midlands and one in Kent, where they will be trying to break through the theoretical yield barrier. In John Nix Farm Management Pocketbook 2017, the yields for dessert apples are reported to be between 25 and 50 tonnes/ha and for culinary apples between 30 and 55 tonnes/ha. Growers have managed to exceed these figures, but often at the expense of quality and consistency. "We have always thought there is a theoretical ceiling of 60 tonnes/ha yield," says Rob. "But can we break through that ceiling? This is what we are aiming to do."

"We think it may be feasible to achieve consistently higher crops of quality fruit, if the tree is able to capture more sunlight. By redesigning the canopy and tree architecture, it should be possible to intercept more light, which should mean higher yields. The Helios project has been set up to see if this theory can be proven. We are planting trees from different rootstocks, thinking of different support systems and redesigning the way the trees grow, so that less light is wasted by getting to the orchard floor.



**Hutchinsons is becoming renowned for developing ground-breaking systems for growers.**

We have thought about more of a canopy in a simple horizontal plane with little depth - flatter canopies more open to the light," says Rob.

The idea of Helios is to see how yields can be increased and how an orchard can be established more cost-effectively. The project is scheduled to run for ten years and growers will be invited to one of the sites to see for themselves how the project is progressing during that time.

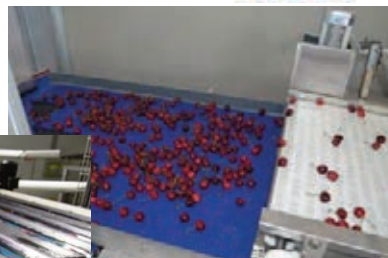
Hutchinsons is becoming renowned for developing ground-breaking systems for growers. In arable and fruit crops, they have the Omnia Precision system which is a unique unrivalled precision farming system using Multi-Dimensional Data Analysis for whole field crop and nutritional planning system. "We are also developing the pioneering FruitVision system which counts and measures crop yield as it moves through the orchard. This system

was sent to the southern hemisphere this winter for further development and is now back in the UK for final configuration and testing," reports Rob. He also points out that the FruitVision imaging process is really the first step to automated picking. "When finally developed to the standards we are looking for, FruitVision could revolutionise fruit growing. With labour costs doubling every ten years, automated picking will be a huge step forward to more profitable fruit growing. Hutchinsons is looking and investing into the fundamentals of fruit growing, so that they can offer advanced developments to their grower customers."

## STAS NV Belgium



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## ICL - Stand S39

With new regulations on water abstraction anticipated, and uncertainties around Brexit, fruit growers seeking irrigation savings should visit ICL on stand S39 at the National Fruit Show to find out more about a cost-saving solution. The ICL team will showcase its latest independent trial results on its water conservation agent H2Flo, which promises to save on irrigation water and associated pumping costs.

The trials department at independent crop consultants, FAST LLP (Fruit Advisory Services Team) carried out the testing, and Abi Dalton, trials manager, highlights some of the excellent preliminary results. "The trial on Cox apple trees commenced this spring and will continue until September 2018. But the initial results already show that fruit size can be enhanced when using H2Flo, even when water applications are reduced by 25%, with no detrimental effect on fruit yield or quality," she says.

Abi adds that many growers irrigate their trees using a drip pipe, but this is usually done reactively during periods with little rain, when the ground may have already dried out, which can fail to deliver effective relief from drought stress. When water is applied to dry soil, it is subject to surface pooling, poor penetration and evaporation losses, meaning that crops are unable to take up the required level of moisture, so fruit size is reduced.

However, an application of H2Flo can help to remedy this issue by enlarging the area over which the water can spread across the soil profile. The speed at which the water molecules penetrate the first 5cm of the soil is increased, meaning that surface evaporation is minimised.

One grower that has found success with H2Flo is Emily Livesey, Under 40s Fruit Growers chair and fruit manager at Lower Hope Fruit Farm, in Herefordshire. "We trialled the water conservation agent on our cherry crop, and found that the product demonstrated increased water permeability and uptake at the key time of fruit development," said Emily.

The trial also showed that the cherry trees took water up at all levels, up to a depth of 40cm, while trees treated with

water only, allowed uptake to just 20cm deep, with less activity closer to the surface. "We're always looking to improve the sustainability of our farm practices and H2Flo allows the water to penetrate further into the soil,

therefore helping us to conserve water," said Emily.

For more information please visit [icl-sf.com/uk/explore/fruit-vegetables-arable-crops/](http://icl-sf.com/uk/explore/fruit-vegetables-arable-crops/)



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For new Refrigeration projects speak to Paul Kennett on 07903 462 399

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## Haynes Agricultural - Stand K28

New Holland Agriculture launched its cleaner, quieter, more efficient T4 FNV tractors into the UK in July. The updated specialist tractor range benefits from more power and performance, matched with economy and precision. Four models offer a choice of engine sizes and three different widths, alongside a new best-in-class cab, providing superior operator protection and comfort.

New Holland's exclusive Blue Cab™ 4 option provides the operator with best-in-class protection against dust, aerosols and vapours, by exceeding EN 15695 category 4 for filtration and pressurisation when required during spraying. The innovative double filtration system allows the operator to switch to category 2, when category 4 is not required, at the press of a button. This prolongs filter life and reduces maintenance costs. Blue Cab™ is also the quietest cab yet, at 78dB(A).

The T4 FNV tractor series is offered in three widths of 1.06m, 1.23m and 1.47m and high power to weight ratios, to suit the needs of fruit and vineyard applications. Power is delivered by a 3.4 litre four-cylinder engine purpose-developed for tractor operation by FTP Industrial. The T4.110 model produces maximum power of 107hp at 2,300rpm and is the highest output ever offered by New Holland in a speciality tractor. All models deliver constant maximum power between 1,900 and 2,300rpm.

Engine speed management (ESM) improves efficiency by precisely fuelling the engine to meet load and maintain a constant speed. It also allows the operator to programme two engine speeds, which are remembered, meaning that the operator can select separate speeds for work and turns at the end of a row.

T4 FNV models are highly configurable to user requirements, with a wide choice of transmissions to suit individual needs. These include: Shuttle Command, Split Command, Powershuttle and Dual Command™. Optional creep speed is available with Shuttle Command and Dual Command™ transmissions.

The T4 FNV's fuel capacity has increased by 20 litres to 99 litres reducing fill-ups and offering longer run-time for operations. The low fuel consumption and low engine service intervals (600 hour) reduce the operating costs of these models.



A premium hydraulic system can be specified, enabling power-hungry implements to be operated with ease. A powerful 82 litres-per-minute pump, separate to the power steering, ensures a dedicated flow rate to implements. Two remote valves can be set up with free-flow return to drive hydraulic motors and a choice of mid- and front-outlets to suit most needs. Optional hydraulic stabilisers on a dedicated hydraulic supply provides further flexibility, with the ability to offset attachments either side of the tractor for specific row work.

A new heavy-duty, folding front-linkage system delivers a lift capacity of up to 1,970kg on all T4 FNV models. Compatible with both standard and SuperSteer™ front axles and an optional direct engine-driven front PTO which transfers up to 93hp to the front implement, 7% more than the previous model. The renowned SuperSteer™ front axle, unique to New Holland, offers an effective steering angle of 76 degrees and a turn radius as low as 2.9m. Tighter turns are possible and a quicker turn into work for front mounted implements. The enlarged wheelbase transfers more weight to the front of the tractor, which reduces the need for front ballast when using heavy rear-mounted implements. All T4 V and N tractors can be specified with a choice of 2WD or 4WD standard front axles, while T4 N and F tractors can benefit from the 4WD SuperSteer™ axle option.

Jeremy Cloude of Haynes Agricultural, explains that drivers will experience an environment not offered by any other manufacturer; the Blue Cab™ 4 is truly unique in keeping vapours and dust away from operators, even in the most arduous of conditions. Having the ability to pressurise the cab and physically blow the vapours and dust away is an industry first; double this up with the SuperSteer™ front axle and you can really see why professional growers choose New Holland. Speak to Jeremy at Haynes on 01732 880880 to book your demonstration of the new T4 fruit tractor.

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## N.P. SEYMOUR - Stand K30

N P Seymour is pleased to work in conjunction with several suppliers to bring a broad range of equipment to the fruit and vine growing industry.

Norman van der Gaag of Aweta joins us to discuss growers' grading and packhouse requirements. Aweta is recognised globally as the market leader in apple sorting technology, having been the first to develop a colour/diameter camera for apples, and the Falcon - the first quality sorting machine for apples. Aweta delivers robust technology for delicate apple grading, multi-spectrum image scanning for accurate internal and external defect identification, and customised modular packing lines for both large and small packhouses. The systems are integrated and flexible, guaranteeing low maintenance and labour costs whilst delivering optimum outputs.

Berthoud sprayers have been available in the UK since the 1970s and are accurate, innovative, reliable, high-performance machines. The Fructair range is a popular choice for top-fruit with its streamlined design and various tank sizes and fan options. The Win'Air, for use in vineyards with its AB Most booms and drop legs for multi-row spraying, is also a great success.

Swiss manufacturer Felco produces more than a million cutting heads each year and more than 30 million pruning

shears have been made since 1945. Felco have perfected their expertise in manufacturing pruning tools, producing by far the most comfortable, reliable and ergonomic pruning shears and secateurs on the market. A range of manual and electronic secateurs will be available on the stand, along with representatives from Felco.

With a new range just being launched, we look back at how far Fendt tractors have come over the last 30 years and how these premium quality tractors pay dividends. The Fendt 200 V/F/P tractors offer unrivalled quality, comfort, fuel-efficiency, low operating costs and long-term value for money.

We have worked with Austrian company Pessl Instruments for several years, offering their technologically advanced weather stations. The founder and CEO, Gottfried Pessl, will be joining us to show a range of monitoring instruments, including the aniMETOS IMT300 weather station with a full set of sensors for environmental monitoring and precise weather forecasting, a CropVIEW field camera for remote monitoring with daily images, and an iSCOUT insect-monitoring system.

We will also be displaying a range of equipment including our own bespoke tabletop strawberry sprayer, a root-pruner, a subsoiler and a Carraro tractor. We look forward to welcoming Show visitors to our stand.

## Greenyard Fresh UK Ltd - Stand K24

Greenyard Fresh UK is the proud sponsor of the Bonanza Prize at this year's National Fruit Show. The company is part of the Greenyard Group, a global market leader in fresh and prepared fruits and vegetables, flowers and plants, fresh logistic services and growing media. The head office is located near Brussels.

Greenyard Fresh UK can manage the entire supply chain from the field to retailers' shelves and beyond. The company is a UK top-fruit grower, grader and packer, as well as a fruit

importer. A dedicated operations team manages transport and logistics, and fruit ripening is a speciality. Our extensive commercial experience ranges from category management, through to e-commerce operations, varietal and breeding development, packaging and new product development. Top-fruit is the dominant category within the Greenyard Fresh UK portfolio. The other main categories are stone fruit, tropical and exotic fruit, dried fruit and nuts.

The business also has a horticultural division - Greenyard Flowers UK, which has operations based at Varfell Farm near Penzance in Cornwall. Greenyard Flowers is proud to be the world's largest daffodil grower, with over 400 million stems being packed each year. Varfell Farm is also the location of the National Dahlia Collection.

In July 2016 Greenyard Fresh UK established a joint venture with Kent top-fruit grower Bardsley Farms. The unique agreement has provided mutual benefits to both businesses, aligning strategic collaborations. The project has seen considerable investment in world-leading grading and packing technology, making Bardsley Farms one of the most technologically advanced packers in Europe. Through our joint-venture activities, continued investment and commitment, Greenyard Fresh UK will be supporting UK top-fruit well into the future.



## BASIS Registration Ltd - Stand H5

### BASIS exhibits at National Fruit Show for first time

For the first time in the event's history, BASIS will be exhibiting at the National Fruit Show, offering delegates the opportunity to collect up to four CPD points and learn about the latest commercial horticulture courses.

Stephen Jacob, CEO of BASIS, explains that members of the Professional Register can claim two Continuing Professional Development (CPD) points for attending each day of the event. "In order to collect the CPD points, BASIS members should visit stand H5 and present their membership



Stephen Jacob, CEO of BASIS.

card to a member of the team," says Stephen. "The team will be on-hand to provide advice and guidance to prospective BASIS members, and will also have details of the wide range of training courses on offer to both members and non-members," he adds.

As well as the BASIS Certificate in Crop

Protection (Commercial Horticulture), Stephen highlights that there is a range of advanced crop modules available that enable individuals to focus their learning on soft fruit, top fruit and hops or field vegetables. "All of the courses we offer are designed specifically for individuals working in the sector who want to grow their expertise and stay abreast of the latest developments, whether it be from a technical or regulatory perspective," explains Stephen. "This is particularly important in commercial horticulture as things change so rapidly and it's technically very demanding," he adds.

Sarah Calcutt, chairman of The National Fruit show, reiterates Stephen's point about the importance of continued professional development. "It's imperative that those working in the industry keep up-to-date on the latest initiatives and best practice. We're really pleased that BASIS are exhibiting at this year's event and we really value their support," said Sarah.

For more information on BASIS membership and training, please visit [www.basis-reg.co.uk](http://www.basis-reg.co.uk) or call 01335 343945.



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## UKCA - Stand H18/19

Whilst DCA is not a new concept, the UK storage industry has embraced the technology and DCA-CF is widely regarded as the most efficient and effective method of achieving low oxygen conditions for optimum storage. Its efficacy has been proven repeatedly by industry and research institutes.



When weighing up options for new storage equipment and deciding which methodology to install in modern storage facilities, reducing risk and maximising reward is vital. For this reason, UKCA chooses to offer DCA-CF above other systems. DCA-CF storage is now well established in the UK, enabling growers to have greater control over fruit in store, whilst giving them tangible data about the condition of the fruit throughout the storage period. The technical and scientific evidence provided enables UKCA and Isolcell to provide an unmatched service for successful DCA storage.

UKCA has also seen great demand for the supply and calibration of QA instruments. Now one of the leading suppliers of refractometers, penetrometers, and sizing equipment for the fruit industry, we are seeing our services beginning to support other industries. Among the latest additions to our constantly-growing range are specialist instruments from Testo and HM Digital for assessing water quality.

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# Gala Club Pre-Harvest Walk 2017

Malcolm Withnall reports

**G**H Dean's orchard team hosted the Gala Club's Pre-Harvest Walk at Dully Farm, Sittingbourne, led by orchard manager, David Butler, and with owner Oliver Doubleday in attendance. Dully Farm represents part of GH Dean's investment in 35ha of Gala production, along with 85ha of pears, 70ha of cherries and 3.5ha of Braeburn apples on several sites in North Kent, including Provender Farm and a site at Iwade. GH Dean also farms 1,400ha of arable crops in North Kent, plus 1500 breeding ewes.

David Butler is the son of a local fruit grower and knows this region of Kent well, growing up with fruit trees around him. The soil at Dully Farm is 'bottomless' brickearth and some of the finest fruit growing land in the country. This year the trees look superb and, given the dire predictions shortly after blossom time following severe frost in the area, the yield at harvest is of great credit to David, especially coming such a short time after being appointed. Fruit size and skin finish are exemplary, and the fruit should be well received by consumers.

The Gala planting at Dully Farm comprises the clone Royal Beaut, with the experience of growing Gala clones to date suggesting that greater colour was necessary for the long-

term. The trees were sourced from the Dutch nursery, Fleuren. David set out the 13ha planting three years ago, with the estimated crop in its third leaf in 2017 being 35-40 tonnes/ha.



GH Dean's Orchard Manager, David Butler.


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**A remarkable yield of 35-40 tonnes/ha of Gala 'Royal Beaut' is predicted for year three.**

He estimated that, given the soil quality and the provision of irrigation at Dully Farm, 60 tonnes/ha was a reasonable expectation for the future. GH Dean has employed Malus pollinators planted out at 10 per cent of the tree population, but with the trees occupying their own stations and comprising three varieties, including Everest.

"We have a number of 'freedoms', one of which is the absence of restricted land area, another being ready access to land for preparation", said David. This facilitated the timing of the planting of the orchard at Dully Farm, as the ready access to the site enabled local contractor Mike Terry to move in once the cereal crop had been harvested and to mark out, stake and establish the trees. From start to finish the project took three days, albeit in perfect conditions. David explained that the orchard was 100% 'spade-planted'. "We prefer early

planting, whilst conditions are favourable and the soils warm," he added. "This, in effect, gained us a whole growing season and, by using fresh land we have less of an issue with replant disease".

David stated that GH Dean will continue to plant apples, using improved red clones of Gala, and other fruits, especially cherries and pears, and will maintain the apple tonnage into and out of store. Working closely with AC Goatham & Son, with whom they enjoy a close working relationship, the fruit is made available to UK consumers.

As part of the visit by the Gala Club, guests were shown the sophisticated new investment in cherry grading, which is likely to place GH Dean at the forefront of cherry marketing in the UK. ◆



**With good size and exemplary skin finish, the grade-out of the Gala at Dully Farm is expected to be high.**



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# GREAT Soils event helps growers to monitor and improve soil health

Lingering puddles caused by this summer's downpours will have reminded many top fruit growers of how compacted their soils have become. Whilst using spading machines and other similar instruments can help to alleviate this issue, the UK's Growing Resilient Efficient and Thriving (GREAT) Soils project is helping fresh produce growers find alternative ways of improving and monitoring soil health. Rachel Anderson reports.

Top fruit grower James Smith's Loddington Farm in Kent is one of six fresh produce farms in the UK that is working with the GREAT Soils project consortium. Partners and funders of the project include AHDB Horticulture, Soil Association, Organic Research Centre and Earthcare Technical. Against the background of a need to reduce the environmental impact of farming, the overall aim of the three-year project is

to 'inspire and support growers to develop the ability and confidence to assess the health of their soils and take practical action to improve their soil management strategies'. With this aim in mind, a field experiment on a newly-planted apple orchard at Loddington Farm's West Pike Fish Farm has, for the past year or so, seen James work with the GREAT Soils team to get a better understanding of this farm's soil health.

Growers who attended the GREAT Soils field day at West Pike Fish Farm in July, learned that two different soil-improving seed mixtures were sown in 2016 alongside a conventionally-farmed control plot. The two standard seed mixtures were provided by Cotswold Seeds and included an orchard pollinator mix containing more than 12 different species and a soil-improving mix containing nine species. The orchard pollinator mix contained, for example, several types of clover, including AberConcord white clover, Atlaswede red clover and Dawn alsike clover.

James said: "We have farmed the control section conventionally, but the other two we have farmed according to the trial. We want to apply the whole concept of improving soils to top fruit crops." Guest speaker Anja Vieweger, senior researcher at the Organic Research Centre in Berkshire, revealed to delegates that four types of tests have been carried out on the three plots to measure their soil health. These include: a visual soil assessment; earthworm counts; NRM soil health test (developed by Berkshire-based firm NRM Laboratories); and infiltration rates (only in 2017).

Part of the visual soil assessment requires growers to dig out a spade-sized block of soil and then gently open it to break it up. The soil is then rated, with a score of one or two being moderate (crumbly) and a score of four or five being poor (compact). Happily, the average scores at West Pike Fish Farm improved over time. For example, the pollinator mix scored 3.8 in April 2016 and 2.4 in April 2017. James also noted that cover-crop soils smelt sweeter than conventionally-farmed soils. "The smell of them is really significant," he said.

## Earthworms – 'ecosystem engineers'

The Organic Research Centre's Dr Jo Smith reminded growers that "earthworms have a huge impact on the soil and we call them 'ecosystem engineers' because they modify the environment, which impacts on other biota as well." She explained to delegates that earthworms convert organic matter into rich humus, creating 4.5kg of casts/worm/year. These casts are five times richer in available nitrogen, seven times richer in available phosphate and 11 times richer in available potash, than the surrounding



James Smith of Loddington Farm examining the fresh-smelling soil in the pollinator trial crop.





Dr Jo Smith examining earthworms present in the trial. She has found a green-coloured endogenic earthworm that lives in and feeds on the soil.

soil. Worms' burrowing activity also aerates the soil and improves drainage. Moreover, like 'nature's plough', they mix soil layers and bring vegetation down into the soil. Jo noted that earthworms are great 'visual indicators' that help growers understand the state of their soils. "Farmers should really think about what's going on below ground as well," she asserted.

She noted, for example, that a study by Rothamsted Research found that poor soils carry up to 62 worms/sqm whilst fertile soils hold up to 432 worms/sqm. Unfortunately, agricultural practices can have a negative impact on earthworm populations. Soil compaction, for example, has a huge effect on earthworms because "it makes it impossible for them to move through the soil." Earthworm numbers were counted in soil samples taken from each of the trial plots at West Pike Fish Farm, but they varied and did not necessarily increase over time. For instance, the pollinator mix sample contained four earthworms in April 2016 and just two this year. However, Anja said that as the overall numbers from the tests were extremely low they were not substantial enough to say anything about the trial.

### NRM soil health test and infiltration rate test

The NRM test assesses the health of soil by evaluating its pH, total soil organic matter, soil texture and respiration rate, which is the rate of evolution of carbon dioxide. According to Berkshire-based NRM, carbon dioxide evolution is directly related to soil respiration – a general measure of biological activity, indicating microbial biomass, carbon sequestration

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and nitrogen mineralisation rates. In April 2016, the respiration rate was the same in each plot at West Pike Fish Farm. A year later, the respiration rate had increased in all three plots. Interestingly, it was the highest in the pollinator mix and the second highest in the soil improver mix.

This year, an infiltration rate test was also carried out on the trial plots. With the help of a drainpipe, this test measures the velocity at which water enters the soil. The drainpipe in the control plot took much longer to fill up - nearly six minutes, compared to less than one minute in the other two plots that had been sown with the standard seed mixes. Anja said that: "It [the rate] can be related to the moisture levels in the soil but also to compaction - the result suggests that the control alley was more compacted."

### Working with cover crops

Final soil assessments are being carried out at West Pike Fish Farm this October before the project finishes in March 2018. As delegates were led around the trial plots, they could see the rich, tangled greenery of the clover-dominated cover crops. However, James observed that the trees in the trial crops have suffered from the ground's overgrown state. He said: "The intention was to establish the two cover crops right across the trees, but we found that it established very well in the alleyways, but in the tree rows we couldn't consolidate it that well, and the annual weeds took over and out-competed the cover crops. I probably should have done some mechanical weeding and re-established the clover, but I didn't get around to that, so the trees have suffered with some weed competition and no artificial nitrogen."

He predicted that: "What will come out of this trial, as far as my business is concerned, is a bit of a hybrid between what we have been looking at in these trials and what we do conventionally." He noted that his aim is to increase both biomass in the farm's soil and the number of pollinators in the orchards. He also revealed that he would, in future, select a cover crop mix that gives him the longest possible flowering period for the benefit of the pollinators. The group was also shown around other parts of West Pike Fish Farm where the soil was compacted. He said: "We can go for six weeks without rain and still have puddles." He admitted that, to help aid the soils, "the secret, I think, is to introduce some of these mixes in the first place." He also commented: "I think plants are the answer, not diesel and steel, but you need time to get them established."

### Smart soil-mapping

Dr Lizzie Sagoo, a soil scientist at ADAS Boxworth in Cambridgeshire, gave a presentation on a parallel AHDB



Dr Lizzie Sagoo telling growers about the benefits of soil-mapping.

Horticulture soils project. She explained that this three-year project is focusing on the potential of precision farming to improve soil and nutrient management within horticulture. Part of it has so far seen soil scientists demonstrate to growers how soil-mapping techniques can highlight the variability of their soils so that they can manage parts of their fields differently. For example, they might want to use a soil map to apply variable seed or planting rates. Lizzie said: "We've spoken to a salad grower who uses these maps to help decide where to plant different varieties. He said he plants lettuce varieties that need a heavier weight on heavier land and those that need a lighter weight on the lighter land."

So far, the project has tested soil EC/EMI (electrical magnetic induction) mapping, that gives growers an indication of differences in soil texture, organic matter content and moisture. It has also tested soil brightness imagery, which reflects the intensity with which soil reflects incoming light. This, said Lizzie, gives growers a measure that reflects soil texture, organic matter content and soil moisture.

Several nutrient mapping methods have also been trialled, including grid-based sampling that gives growers a greater indication of the zones of variability within their field than the traditional method of taking one average sample by walking a 'W' over a field. Lizzie said: "Within the field that we went to, we have one sample that represented the whole field, but we also sampled on a 25m grid. That gave us a total of 143 samples from that field. The whole-field soil sample was saying the pH was 6.1 but, from the 143 samples, we had samples that ranged from 5.3 to 7.1."

With many viable options available to them, Lizzie informed growers that they can use 'multiple data layers' and "spend time trying to understand the data". She said, "When you start to combine layers of information, or information from more than one source, that gives you confidence in drawing your zones." ◆



# Researching redcurrant production

## International Delphy Soft Fruit Event 2017

**Redcurrants are the theme of the second part of our report, with the emphasis on biostimulants and substrate trials.**

**D**utch growers are becoming increasingly specialist and growing ever-larger areas of one crop, and retailers are very demanding and are only interested in the highest quality. Addressing the 150 delegates at the Soft Fruit Event in June, senior Delphy advisor Willem van Eldik said that redcurrants are not an easy crop to grow.

Speaking at the start of a visit to the 13ha Vos/Tijssen fruit farm, he added that growers need a high production level with no diseases. "This is the reason why most of the Dutch production area is covered," he added. An increasing number of German and Belgian growers have started to protect their crops, but there is a contrast with the Dutch situation where 90% is covered, and the rest of the world where 90% is still grown outdoors.



**Around 90% of the Dutch redcurrant area is covered, including all the crop at the 13ha Vos/Tijssen nursery.**

Dutch growers want long trusses with 20 berries, and Willem is confident that growers will continue to push the boundaries in terms of yields. Currently at an average of 20 tonnes/ha, he reckons it should be possible to increase this to 30 or 35 tonnes/ha, helping to reduce labour costs. There are no



**Senior advisor Willem van Eldik (right) and Gerard Vos. Willem reckons it is possible to increase redcurrant production to 30-35 tonnes/ha.**

precise figures, but it is estimated that one Dutch redcurrant grower has 60ha, and that the five largest growers of redcurrants in the Netherlands have a combined area of 300-350ha, representing over 60% of the total.

The Vos/Tijssen fruit farm is spread over two locations about 10km apart at Andelst and Driel. The main crops include raspberries and redcurrants, but they also grow blackberries, gooseberries, cherries, apples and pears.

The group visited Andelst where the redcurrant varieties Rovada and Unifer are the main crops. The entire area is covered to provide protection against wind, insects and botrytis. Unifer is grown under glass and Rovada under polythene rain covers.

The farm has grown redcurrants for 15 years, always using cold storage. Picked at the end of May/early June, the Unifer greenhouse crop is sold directly into the fresh market, while 90% of the Rovada crop goes into cold storage. Owner Gerard Vos said that last season, they stored about 80 tonnes of

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**Dutch growers want long trusses with 20 redcurrants, and Willem is confident that growers will continue to push the boundaries in terms of yields**

redcurrants, and most were sold in December. The average price during the last eight-month season was €6/kg, with a peak of around €12/kg in April.

Mr Vos uses eight small compartments for cold storage, holding a maximum of 1,000 x 3kg boxes each. "This means that we do not lose so much cold air when the door is opened," he said. The temperature inside is kept at a constant 0C, and O<sub>2</sub> and CO<sub>2</sub> levels at 2.6% and 22% respectively. "We have to have nice green stems for redcurrants for the Dutch market," added Mr Vos. "We measure Brix when picking and need a reading of 12-14."



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## Biostimulants

It is becoming increasingly difficult to develop new insecticides and fungicides and get them registered, and retailers want the highest quality, but also more sustainable production methods, said Syngenta crop advisor Jan Hoogland, and added that if it is possible to use other compounds to make plants less dependent on chemicals, then it makes sense to do it.

One route that Syngenta is exploring to reduce chemical inputs is the use of amino acids. One of the products highlighted for redcurrants was Isabion, which contains a range of amino acids including glycine, proline, glutamine acid, alanine and arginine, all of which are bio-stimulants.



**Last season the Vos/Tijssen fruit farm stored about 80 tonnes of redcurrants. The average price for the eight-month season was €6/kg.**

However, Jan admits that this is a grey area, because it is easy to fill a bottle with any liquid and sell it as a bio-stimulant. One important aspect of amino acids is the length of the molecular chain – free, short or long form. "Isabion is all free or short form and available immediately for the plant to take up." He stressed the inclusion of glycine and proline: "Proline stimulates the closure of the stoma in dry or cold conditions, whereas glycine stimulates the plant's defence system against fungal diseases and can make plants less susceptible to problems."

Syngenta has carried out several trials with the product in



**If it is possible to use compounds to make plants less dependent on chemicals, then it makes sense to do it, said Syngenta crop advisor Jan Hoogland.**



pears - mainly with varieties where it is difficult to achieve the required fruit set - and blueberries. "We have improved pollination in blueberries, and have found it resulted in less fruit drop and two more days of shelf-life. Trials in olive orchards in Southern Europe have shown that it helps make flowers resist a few degrees of frost."

Delphy is doing field trials to investigate the effects of the product on redcurrants, which is one reason why we were at the redcurrant nursery. Jan Hoogland outlined trials with the product where 12 rows of crop were treated with three applications, on 10, 20 and 30 April, with 2.5 litres each time.

Gerard Vos reckons that the treated plants are a bit greener, but he continues to monitor fruit weight, yield and shelf-life. One of the sources of the amino acids in Isabion comes from cowhide, and it was suggested that the smell has a detrimental affect on bees. However, Isabion had already been tested in apple orchards and researchers found no difference between bee numbers in treated and untreated crops.

Dutch researchers are also looking for the best combination of substrates and slow release fertilisers to achieve optimum growth during the first few years of a new planting of redcurrants. Geert van Gessel of the Central Advice Service for the Fruit Sector (CAF) provided a few details of the first results and showed delegates part of the planting trial in a new plantation of Rovada.

Started in April 2016, one of the 12 trial plots is planted in soil, and the remainder in a mixture of different substrates (10 litres/plant) from suppliers including BVB, DCM, Meega and Attero. The latter, a mixture of peat and compost, was the most widely used substrate. They harvested all the berries in August last year, and Geert van Gessel said that it is quite remarkable, in the first growing season, that all the substrates gave a growth boost and a higher yield, compared to the untreated plants. "Production doubled with a substrate and tripled when combined with 25g to 30g of slow release fertiliser," he said. The trial will continue into 2018 to collect more data to discover which mixture gives the best results. The message for now is to avoid applying compost or manure directly to the roots. ◆



**Geert van Gessel provided details of the first results of a redcurrant planting trial with Rovada.**



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## Drone technology could lead to a sea-change in orchard monitoring

Members attending the Gala Club's Pre-Harvest Farm Walk were introduced to an exciting new technology, namely the UAV (unmanned aerial vehicle) or drone.

The military use of UAVs is becoming more widespread, notably in Middle Eastern theatres of war, and with the capital cost coming down each year, they may become as readily used as a tractor in the British countryside in the foreseeable future, and could be



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A drone offers top-fruit growers a unique view of their trees.

employed as a management tool.

Yara's Mike Stoker has invested in a UAV, and has acquired some expertise in using such technology, including Civil Aviation Authority (CAA) licensing and flying skills. His expertise is rare within the fruit industry, and was shared with Gala Club members at GH Dean's Dully Farm near Sittingbourne, Kent. There are now several companies around the industry who are developing this technology, including Hutchinsons.

Concerns about the use of drones have been widely reported, due the use of a drone close to an airport having the potential to cause a major accident, and the obvious invasion of privacy from snooping drones invading private spaces. The regulations state that, unless controlled by a pilot, drones must not go within 50 metres of any vehicle, structure or vessel, they should not be flown above 121 metres, there is an exclusion zone around airports and a 50 metre exclusion zone near to human activity. Mike reported that licensed drones simply will not work in close proximity to a military installation, and all flights are required to be logged with the CAA. The law is rather hazy at the moment as the technology is still very new, but given safety and security issues, it will not be long

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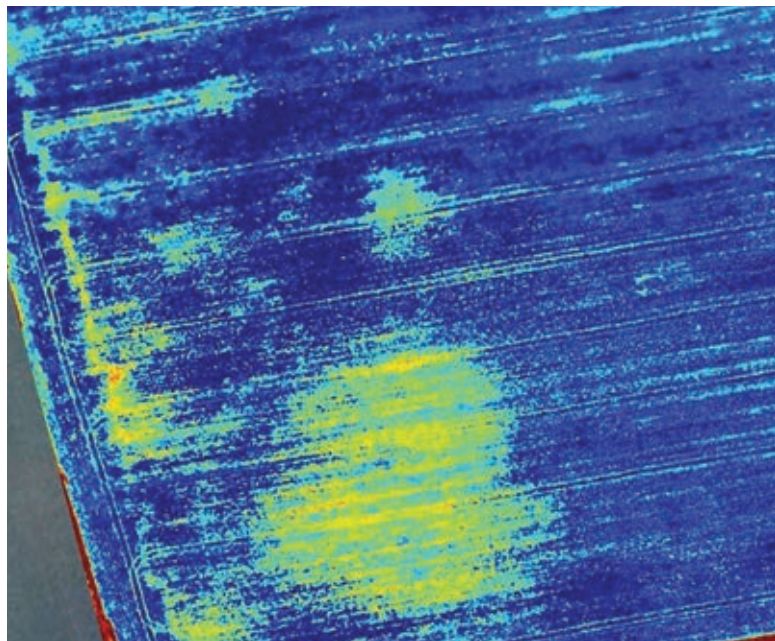


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before stricter controls are legislated for as drones come into the hands of more citizens for private and professional use.

The drone's frame carries cameras and sensors to look down onto orchards from a 'bird's eye' view, a capability that has not previously been available. Infra-red and multi-spectral sensors are available to perform a range of tasks, in addition to the

conventional red/green/blue (RGB) sensors. The technology is becoming more sophisticated all the time and facilitates the aerial mapping of crop inputs. The arrival of improved 'normalised vegetation indices' will hugely assist with crop management by differentiating leaf quality. Algorithms can be applied to measure aspects of plant health such as biomass and give an overall measurement of plant or soil health.

"We are aware of drones being used to monitor spotted wing drosophila, the current bane of berry and stone fruit growers, in a European-funded project involving Aberdeen University's geographer, Dr David Clark", commented Mike. "However, within the orchard environment, one can readily see how they might be used for crop estimation and disease monitoring, especially apple canker".

"The battery-driven drones have a good operating time of 20 minutes per charge, and always return to base when the batteries run low", said Mike. "It would appear that, when combined with other technologies such as LIDAR and soil mapping, drones have the ability to make a huge contribution to improved crop estimation, as well as fertiliser application, disease monitoring, predator applications, and especially the incidence of canker or the emergence of, for example, Parry's Disease in a pear orchard".

This is a new technology that will contribute to crop management in the near future, and adding aerial inspection to crop-walking skills will improve crop production. ◆

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# Young minds adopt new techniques to tackle spotted wing drosophila

Two AHDB-sponsored students have been investigating new and novel techniques to tackle and control the threat posed by spotted wing drosophila. Bethan Shaw is evaluating the daily and seasonal behavioural rhythms of the pest to help growers optimise control measures, whilst Nathan Medd attempts to find an effective virus that can work as part of an IPM (integrated pest management) programme.

## The circadian clock

Daily behavioural and physiological rhythms dictate most of the natural world. It is a result of the interaction between the environment and an internal timekeeping mechanism known as the 'circadian clock', that can be regulated by temperature and daylight, and enables synchronicity to changing daily conditions.

The rhythm can be helpful when looking at the issue of pest control. In this case, studying the activity cycle of spotted wing drosophila (SWD) to reveal the best times to implement control measures, giving UK growers much-needed ammunition against this fruit pest.

Previously, data on SWD and its activity has been collated mostly from European and American studies. However, the most prominent issue with this approach is that the environmental factors and growing systems in the UK clearly differ from those across the globe.

An AHDB project co-funded by the University of Southampton, and carried out by NIAB-EMR PhD student Bethan Shaw, has produced some early indications highlighting that the most active period for the female SWD to lay its eggs is during the daytime when the outside temperature reaches between 25C and 29.9C. "During the cropping months, female *Drosophila suzukii* (SWD) display a preference for egg-laying in the warmest part of the day, typically early afternoon. However, when temperatures exceed 30C egg-laying is greatly reduced. In crops grown under tunnels it's not uncommon for air temperatures to reach this," explained Bethan Shaw.

Additionally, and somewhat curiously, the SWD in the trials behaved differently depending on whether they were in a group or housed individually. Although it is not yet clear as to how this will help with in-field application of control measures, it does perhaps provide a route for further research. "As many groups are working on tackling *D. suzukii* it would be beneficial to have consistency in procedures while investigating behavioural rhythms. For research to be consistent and reduce conflicting results, we have been investigating the optimum laboratory parameters such as social housing and environmental conditions, with the aim of producing a standard laboratory practice; then we can more accurately predict how wild populations will behave under different environmental conditions at different times of the year," added Bethan.

It's hoped that, as the project progresses, such insights will lead to a method of targeting the pest at certain times of day or month, or when certain weather conditions are present, allowing UK growers to better protect against the pest.



**Bethan Shaw is evaluating the daily and seasonal behavioural rhythms of the pest to help growers optimise control measures.**

## Catching a virus

This project is merely the first step on the road to search for viruses that might be utilised in future as part of an overall control strategy for controlling SWD. Driven by UK-based PhD researcher Nathan Medd, 24 new viruses that affect SWD in the UK and its native Japan have already been identified.

While there are several useful measures to help constrain the pest, growers are still seeking additional control options, and one potentially effective system is the use of viruses specific to SWD. Although these offer good candidates for the development of microbe-based biopesticides, to date the viruses of SWD remain almost completely unstudied.

Conventional crop protection methods are difficult to implement with IPM programmes. So, if the research can lead to the development of an alternative IPM-compatible biopesticide specific to SWD, then the benefits to growers and pest management professionals would be enormous.

One of the prime candidates identified early in the work, a Nudivirus infecting *D. Melanogaster* (common fruit fly), was shown to have a high mortality rate. However, its time-to-death ratio was found to be over two weeks, by which time the pest would have done damage. Further investigations since that early discovery have delivered some more candidates. "We have discovered a host of viruses infecting *D. suzukii* in the wild. This is exciting because many of them are new to science and may potentially contain untapped potential as biological control agents. The isolation and production of viruses as viable crop protection products is difficult, but, unlike 40 years ago when the first viral control agents were developed, we now have biotechnology on our side," explained Nathan.

Having sampled over 3,000 flies in three years to obtain their results, mainly using genetic screening, it is hoped that the project will lay the groundwork for a viable long-term solution, as other researchers now take up the mantle. ◆



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