

The Horticulturist



The changing dynamics of commercial fruit growing

PLUS Prior Informed Consent | Apprenticeships | An experimental garden | Investing in tomorrow | YHoY 2022

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Volume 31 No. 1 | Spring 2022

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FROM THE PRESIDENT

As spring approaches the challenges presenting to our industry are greater than have been for decades. Energy prices are having an effect on growers. Gas prices have risen four-fold, and the action by Russia in Ukraine has exacerbated the situation. Coupled with the rise in cost of fertilisers, and the shortage of seasonal workers, some businesses are questioning their viability. For high-energy growers, the energy costs are either their major or second highest cost after labour and cannot be sustained in the long term.

The government has recently published its survey on horticulture business development, productivity and sustainability. The objective was to collect data on the current and future direction of the horticulture sector in England. A representative sample of growers of ornamentals and edibles were invited to participate. Growers were asked about their plans for business growth in the next five years. Some 69% of edible growers and 55% of ornamental growers indicated that they are more likely to expand. In answer to another question growers highlighted a number of reasons that would prevent expansion. They included lack of investment, shortage of labour and demand for the domestic product. The full survey can be viewed on the government website.

The Institute is playing an integral part in round-table discussions and decision-making with a number of businesses, related charities and other connected organisations. Education is one of our priorities and our Development Officer, Helen Sessions, has increased her involvement across the spectrum.

The five-year strategic plan is now complete and the Management Board is actively working on its implementation. A summary can be found on the website. Key objectives include developing support for new entrants, helping members to achieve chartered status, peer-to-peer networking, fostering innovation and promoting education and training. The Council of Trustees has committed to increased provision for student members and will continue to support and develop careers. Approval has also been granted to form specialist interest groups.

During the pandemic we have seen a rise in the need for support in every walk of life with people isolated and working from home, many young people being educated online, and many people may be at risk of losing their jobs. We have also seen a number of career changers entering the industry.

I am pleased to say that the first of these Special Interest Groups, Social and Therapeutic Horticulture, will be launched shortly. This will provide a platform for an important group of members to have a collective voice. A new committee will be formed and the chair will represent the group on the Council of Trustees.

After almost a year in post I am pleased that we have progressed in many areas. The Council of Trustees and Branch Chairs are actively involved in decision-making and the Management Board continues to progress all aspects of our work. I am looking forward to seeing many of you at the AGM in Harrogate on 23 April.

Susan Nicholas FCIHort, President
president@horticulture.org.uk



Cover Apple blossom at Honorton Farm, Brenchley, Kent, one of the Adrian Scripps' orchards.
(photo: Adrian Scripps Ltd/James Simpson)

The journal of the Chartered Institute of Horticulture promotes and disseminates best practice and achievement in the science, technology, education, business, and art of horticulture to all professional horticulturists.
ISSN 0964 8992

Editor Barbara Segall CHort FCIHort
Proofreader Sue Minter CHort FCIHort VMM
Designer Made In Earnest
Printer Blackmore
Publisher Hall-McCartney (on behalf of the CIH)

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Write for *The Horticulturist*

Much of the content of *The Horticulturist* arises from voluntary contributions from members in the shape of ideas, articles and photographs.

If you are interested in writing an article for the journal or have a newsworthy item please contact the Editor, Barbara Segall, at barbara@bsegall.plus.com.

Issue copy dates

Summer 2022 issue: 24 May
Autumn 2022 issue: 28 September
Spring 2023 issue: 25 January

Paper stock

You will notice that *The Horticulturist* is printed on 100% recycled paper.

This is the second phase of our efforts to protect our environment and complements the recent introduction of the compostable sleeve.

We hope you will enjoy the look and feel of the journal.



Advertising enquiries

Hall-McCartney Limited, Heritage House,
PO Box 21, Baldock, Hertfordshire SG7 5SH
01462 896688
cih@hall-mccartney.co.uk

Subscriptions

£90 (UK & Ireland)
£118 / €146 / US\$162 (overseas addresses)

All prices include cost of postage by air, except in UK. There is a 5% reduction for agency subscriptions. Orders and inquiries should be made to the Secretariat at the Institute.

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The changing dynamics of commercial fruit growing

FRUIT PRODUCTION James Simpson describes how innovation and the introduction of increasing mechanisation have changed the face of apple production. He details the leading developments in robotic fruit packing, internal quality assessment and sugar analysis, dynamically controlled atmosphere storage and intensive single row orchards grown under hail netting.

I don't consider myself old or long in the tooth, but I do reflect frequently and find myself wishing for the 'good old days', if that's what they were? I enjoy a dynamic role in a forward-thinking, innovative business. The business hasn't changed, but the feeling is different. Perhaps the good old days are viewed through rose-tinted specs or perhaps my role and responsibilities have changed. It might be as simple as the challenges are harder or different, but something doesn't feel the same.

I don't believe I am alone in feeling this. Many in the industry would agree that it is the

challenges that have changed.

I am involved in primary horticulture: we plant trees, grow apples, harvest and deliver them to the retailer's shelf. We are a fully integrated business with control of our supply chain. I use the word control lightly as the burden of regulation and customer requirement seem to endlessly rise, hence we don't always feel we have control.

As a positive, cup half-full person, I have always enjoyed challenges and continually work to find answers and solutions. We have invested in our orchards, innovated our planting systems and driven up quality and productivity. We now

regularly produce twice the tonnage on the same area we did 12-15 years ago. We have achieved this through more dense planting systems, newer varieties and clones. We have taken average yields from 30-35 tonnes per hectare to 65-70, with the very best orchards producing over 90 tonnes per hectare. The figure of 70 tonnes per hectare equates to over 450,000 apples, all hand-picked.

We have streamlined our machinery and reduced labour and inputs per tonne. Our sprayers now cover three rows of trees rather than one, our orchards are covered with hail nets that drape to the ground, protecting fruit from



Left: Hail net system over a modern trellis orchard.
Above: Drones working.
Right: Naturally branded apples showing the price look up (PLU) number.
Below: Apple blossom and pollinator.

(All images: Adrian Scripps Ltd/James Simpson)



hailstorms and pests. We have reduced pesticide inputs, planted native flowering meadow mixes rather than grass between the tree rows and adopted biological controls where they are available.

Rather than this being a revolution of change, it has been a steady evolution over several years, something I think that runs through all horticultural businesses and something we possibly don't give ourselves credit for. To a certain extent our approach is traditional: good plant health gives good crops, but it is how we are now achieving the good plant health that has developed. We don't

shout about it, although increasingly it would appear we should. Social media seems to dictate too much policy.

So what are we doing as part of the growing and technical revolution?

Planting systems

We were one of the early adopters of intensive single row trellis growing systems for orchards. Traditionally trees were planted fixed to a stake, often spaced 1.8-2.70m apart in the row, with 4.5m between the rows. We now plant at 80 to 100 cm between trees with rows only 3 metres apart.

We grow a smaller tree quicker and aim for a grown tree height of 3 metres. Where needed we plant with compost, micronutrients or mycorrhizal fungi. We do minimal pruning in the first few years, allowing the tree to rapidly fill its space. We will remove the odd dominant branch and remove competition with the leader. We want a narrow apically dominant tree.

Where needed we train branches to the wire system, much like a vine. Every row has trickle irrigation that also allows us to run feed to each tree. Other feed is either applied by foliar application or via GPS-controlled granular applications.