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NEWSLETTER – WINTER 2022

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Editorial

Welcome and a very Happy New Year to you!

In this edition we have reports on our October Study Day and AGM. The meeting was well attended and it was wonderful to see so many of you face-to-face again. Despite it being a blustery day, our outdoor plant sale was successful and the gazebo didn't blow away! Reports on the two talks we had at the Study Day are included below.

Our next Study Day is on 25th February and we have two very interesting speakers on very diverse horticultural topics – something a little bit different. Details of the programme for the day and more about our two speakers can be found below.

One piece of good news, Hilary Robinson has joined the THEA committee and we are very pleased to welcome her.

Best Wishes to you all

Debbie Holden (Chairman)

STUDY DAY PROGRAMME

Friday 25th February 2022 at Reaseheath College

We will be holding our next study day at Reaseheath College – it's so much more enjoyable to meet face-to-face. Reaseheath have requested that we wear masks when moving about in the corridors and the restaurant – nothing too unexpected there. If anything changes in the meantime, we will notify you.

We are planning to hold a plant sale, though it will be outside rather than inside the lecture theatre; this will help avoid over-crowding and minimise any Covid risks. If you have been busy propagating and you have some spare plants, then please bring samples of your efforts along – we'd appreciate it.

The programme for the day is:

From 10:00	Sign in
10:15	Coffee available in Restaurant
10:45	Welcome and introduction followed by Lecture: "Are Plants able to Communicate" by Dr Tony Polwart
11:45	THEA Plant Sale
12:00	Break for lunch
13:00	Raffle Prize Draw
13:15	Lecture: "Edible Landscaping" by Richard Smedley
14:30	Close

Dr Tony Polwart



After completing his PhD at Glasgow University on Frost Resistance in Heathland Plants, Dr Tony Polwart obtained a Lectureship in Biology at Keele University in 1970, teaching Botany and Ecology.

His research involved physiology of plants under trampling stress, both outdoors and in the lab. He contributed to teaching many aspects of plant biology and was a keen proponent of learning in the field. He fully retired in 2015.

During a module on Symbiosis, he taught the relationship between plants and micro-organisms and from that, his talk on plant communication has evolved.

Richard Smedley



Richard Smedley trained at the Royal Botanic Gardens Kew, and the Architectural Association, and worked as a head gardener, a researcher, and a permaculture designer before accidentally falling into the world of computer software.

When he can step out of his home office for fresh air, he maintains a cold climate food jungle – growing an improbable diversity of fruit in a relatively tiny garden.

"Recent Developments in Hydroponics and Intensive Crop Production" by Dr Paul Challinor

Paul gave us a fascinating insight into the latest developments in hydroponics and intensive crop production. Paul is a consultant and managing director of May Barn Consultancy Ltd, which offers advice to nurseries and farms on plant production techniques and, in particular, on intensive hydroponic systems.



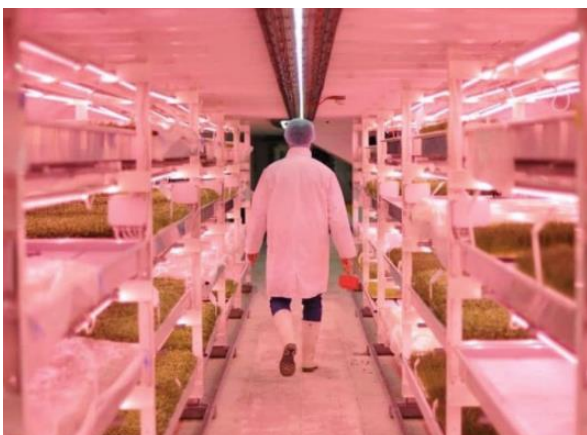
To introduce his talk, Paul explained the different hydroponic systems:

- NFT (nutrient film technique), introduced in the 1970s, where plants are grown with their roots in a nutrient solution.
- Aeroponics, where the roots are sprayed with a mist of water and nutrients. There has been more interest in this system with the increase of vertical growing.
- In other systems, plants are grown in a substrate. These include rockwool, which has been used since the 1980s. Others include coir, which produces fruits of good quality though needs to be transported over long distances, and zeolite. There is also research being done into digestate (for example, material left from cattle manure, after methane has been extracted as an energy source).

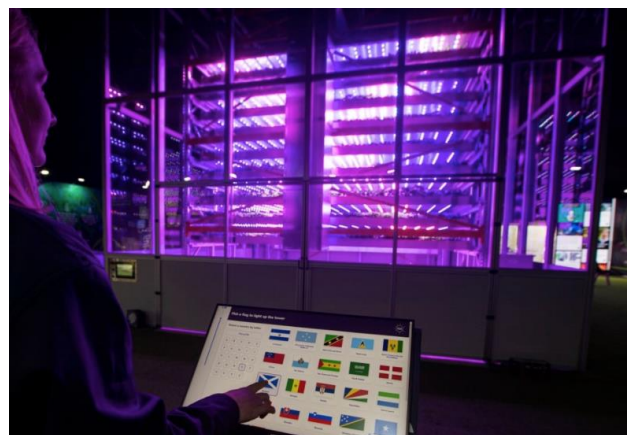
Modern hydroponic systems are addressing the challenges of intensive crop production, for example, the importance of precision in the nutrients used and the need to maintain the correct pH. And, where water is recirculated, good hygiene is vital to avoid disease. The recirculated liquid can be cleaned with ultraviolet (UV) light or heat treatment.

The key trend in vertical crop production is to introduce more light to encourage high yields and this has prompted a move away from traditional lighting to light-emitting diodes (LEDs). These are more expensive but are efficient as most of the energy is converted into light rather than heat.

Paul helped Reaseheath College set up its new glasshouses, which have been designed as a state-of-the-art facility to train students in commercial crop production. These glasshouses have LED interlighting, where lights are suspended inside the canopy to provide optimum light and therefore enhance crop flavour and shelf life.



Growing Underground's farm in WW2 air-raid shelters under the streets of Clapham (Growing Underground) – note the very low ceilings



Pop-up vertical farm at COP26, visitors learned why vertical farming is an integral part of tackling climate change and how the technology works

Intensive growing systems can be installed in a range of different locations. Paul cited examples of installations on top of buildings or underground (for example, crops are being grown in air-raid shelters below Clapham Common in London), even growing in low earth orbit such as the International Space Station. And Scottish firm Intelligent Growth Solutions launched a pop-up vertical farm in Glasgow that was on show during the United Nations climate summit COP26 in November to demonstrate the future of food.

As co-founder of Jones Food Company, Paul was involved in the development of the largest 'high-care' vertical farm in Europe. The company reused a 12-m-high cold store in Scunthorpe, having removed the existing racking and painted the interior white to reflect light. They installed 17 levels of high growing racks within the building. The facility has harvesting zones and a cleaning zone, and is heavily insulated with a high level of automation. There is an air handling unit to filter air from outside, which can be heated or cooled. Solar voltaic panels were fitted to the roof, which makes about 10% of the required energy and the building also connects to solar farm and wind energy supplies.



Jones Food Company's Scunthorpe facility under development

Image courtesy of Jones Food Company



The vertical farm has 17 levels of crop production

Image courtesy of Jones Food Company

The 'high-care' environment means that hygiene and cleanliness are of the highest standard. Staff change from their outdoor clothes into boiler suits and use a cleanroom air shower and hand gels. The system uses biological pest control rather than pesticides, and bees are used for pollination. Plants are raised from seed to avoid contamination and seed is heat-treated to prevent fungal diseases. The seeds are germinated in a special humid chamber and after a few days they are transferred into the main growing unit.

The facility uses LED lighting, which has different wavelengths, for example, red light helps to promote leaf coverage, whereas blue light promotes plant structure and leaf mass. The development was begun in 2016 and the first crops (currently leafy greens and herbs) were harvested in 2018.

Paul said that, although there is a lack of government funding in such systems, recent developments such as that of Jones Food Company show that these intensive systems can be commercially viable.

Written by Helen Gardiner

"Colour in the Leaf" by Anthony & Susan Norman of Conquest Plants



Anthony and Susan Norman are specialist growers of variegated and coloured foliage hardy nursery stock with a great knowledge of how to get the most from this range of plants. They brought a stunning selection of plants with them which were available for purchase after the talk.

Anthony and Sue set up their nursery over 20 years ago and grow most of their own stock (except where plants have PBR – plant breeders' rights). In trying to decide their specialisation they decided against being perennial or shrub experts and opted instead to focus on foliage. Rather than plants which have interest once a year (e.g., at flowering time or in the autumn) they grow plants which look interesting in their own right for most of the year.

After a short introduction, Anthony and Susan talked about a **huge** number of plants – many are familiar in species and genus, however the cultivars mentioned offer something a little bit different. Here is a small selection of those discussed:

Cotinus coggygria 'Golden Spirit' (see right) – leaves open bronze then turn golden yellow, with coral pink, red and orange tints in autumn. It responds well to hard pruning and while that will mean you don't get the flower plumes in summer the leaves are larger and more impressive.



Vinca minor 'Blue and Gold' – variegated leaves with small blue flowers in the late spring through to early autumn

Santolina 'Lemon Fizz' – bright, lemon scented yellow-green foliage and bright lemon button flowers in July and August



Tradescantia (Andersoniana Group) 'Sweet Kate' (see left) – tidy plant with narrowly lance-shaped, bright yellow leaves and violet blue flowers all summer.

Persicaria amplexicaulis 'Cottesbrooke Gold' – broad golden-green leaves particularly in spring and early summer, good spikes of deep pink-red flowers Jul-Oct

Iris pseudacorus 'Variegata' – new growth has yellow/white strips which fade to green in the summer.

Bergenia cordifolia 'Tubby Andrews' (see right) – marbled leaves in spring and summer turning green and pink in autumn and winter. Clusters of pink flowers on red stems in spring.

Pulmonaria 'Sissinghurst White' – early flowering, white polka dots on leaves. Good ground cover under deciduous shrubs.

x *Fatshedera lizei* 'Variegata' – large palmate leaves with a narrow cream margin. Needs a bit of support but provides good colour even in shade.

Deutzia scabra 'Variegata' – white leaves with green spots – works well to light up dark areas.

Kerria japonica 'Picta' – more dwarf form of *Kerria* (up to 3ft) with cream margins on leaves and a small single flower.



Cornus florida 'Cherokee Daybreak' (see left) – green leaves edged with creamy white, that turn deep pink and red in autumn. In late spring, clusters of white bracts.

Hydrangea macrophylla 'Quadricolor' – attractive green leaves with white and pale-yellow variegation which are particularly colourful when they first emerge in spring.

Hypericum x inodorum 'Autumn Surprise' – green and cream marbled leaves, turning pinker in autumn. Needs shade for best variegation.



Leycesteria formosa 'Golden Lanterns' (see right) – as luck would have it, this was also one of our raffle prizes! – bright golden yellow foliage all season and in sun, flowers with dark bracts followed by dark purplish black berries.

Fagus sylvatica 'Purpurea Pendula' – small weeping purple beech, best placed near the front of a border so that it stands out.

Cercis canadensis 'Forest Pansy' – firm favourite – attractive purple heart-shaped leaves and stunning autumn colour.



Cornus controversa 'Variegata' – horizontal, tiered habit with bright green leaves and creamy-white margins, which turn red-purple in autumn, and produces clusters of white flowers in June

Euphorbia x *martini* 'Ascot Rainbow' (see left) – gold and green variegated foliage that is tinged pink in colder weather.

Brunnera macrophylla 'Variegata' – heart-shaped leaves splashed with cream-white and green with bright blue forget-me-not flowers in spring.

Lunaria annua 'Alba Variegata' – honesty with white flowers and white variegation on the edges of the leaves. Good in shade.

Anaphalis margaritacea – compact mounds of silver foliage with clusters of white, yellow-centred, papery flowers that appear in late summer.

Erysimum 'Walberton's Fragrant Star' (see right) – a wallflower with a difference, with evergreen, variegated leaves with a narrow cream margin and bright yellow scented flowers

Phlox paniculata 'Norah Leigh' – variegated form of border phlox, with leaves often more cream than green and pink flowers with deeper pink centre.

Geranium 'Blue Sunrise' – hardy geranium with yellow leaves in spring, turning red in autumn. Violet blue flowers over a long season.



Ribes sanguineum 'Taff's Kim' – attractive form of flowering currant, red flowers over cream-speckled green foliage.

Pittosporum tenuifolium 'Irene Paterson' (see left) – creamy young leaves which mature to deep green marbled with white, and become flushed pink in winter

Viburnum tinus 'Variegatum' – evergreen shrub with yellow margins to leaves providing more interest than a standard *V. tinus*.

Hakonechloa macra 'Aureola' – clump-forming grass with arching, green-striped, bright yellow leaves, often reddish-tinged in autumn and early winter.

Written by Debbie Holden

THEA 43rd AGM Report

The minutes of the 42nd AGM were accepted by the members attending the meeting.

The chairman's report (read by Debbie Holden) described the two successful and well-attended study days that we had in the preceding 12 months and our regret that we were unable to run any of the planned garden visits over the summer.

Kate Bell, our treasurer, gave a report on the THEA Annual Financial Statement. Kate also announced that she would be stepping down from the THEA committee and Paul Brickwood is taking over the role of treasurer

No members had put themselves forward to join the committee and all current committee members had agreed to stay in their current roles for the next 12 months. The AGM finished with another plea to members to assist on the committee to help organise the study days and outings.

**** After the AGM, Hilary Robinson expressed an interest in finding out more about the committee and has since become a committee member – we are delighted to have her help ****

Minutes of the AGM are available – please email horticultural.enthusiasts@gmail.com if you would like a copy now. Otherwise, they will be emailed out to all members a month before our 44th AGM which will be held at the end of October 2022.

Update from Reaseheath College by Will Parks

Adult and Full-Cost Horticulture Academic Year 2022/23

It is too early to say what short courses may run for the next academic year but the courses that will definitely run, if numbers permit, are:

- RHS Level 2 Theory (new syllabus)
- RHS Level 2 Practical (new syllabus) *
- RHS Level 3 Theory
- RHS Level 3 Practical
- Gateway level 2 Garden Design –to be offered in semester 1
- Reaseheath Certificate in Plants and Planting Design – to be offered in semester 2

* This course will now have an end point assessment, as part of the qualification criteria

N.B. Dependent on the size of the cohorts, the RHS Practical courses will take place at both Reaseheath College and Cholmondeley Castle Gardens in conjunction with the Head Gardener there, Barry Grain.

Tatton Show 2022

Last year the Higher Education students produced a design for the RHS Tatton Park Show for a double Back-to-Back Garden to commemorate and celebrate the Reaseheath College 100-year Anniversary; sadly, due to various unforeseen reasons this did not take place at the Tatton show in 2021.

The garden is hopefully going ahead this year with the RHS Level 3 Practical, Garden and Planting Design Students to oversee the build and bring it to fruition. This will be guided by both Barry Grain and me. We will keep you up to date as to the progress.



Perspective drawing of the proposed garden

Design statement for the garden:

In 2021, UCR (University Centre Reaseheath) and Reaseheath College celebrates 100 years as a land-based educational institution (it was founded as the Cheshire School of Agriculture). To acknowledge the institution's development and expansion over the past 100 years, the centenary garden will show its

transition and development through time. The garden encourages users to explore and celebrate the history of Reaseheath and offers an area for rest and reflection. Users will move into the heart of the garden where sustainable practices, such as permaculture and rewilding are demonstrated, embodying Reaseheath's values. The garden will be situated in a courtyard on the Reaseheath campus and will be a space that students, staff and alumni can use. The garden will become a permanent centenary feature to be enjoyed by future generations. This garden aims to promote sustainable practices that students can employ in industry.

The experience:

Upon entering, cottage garden plants can be seen harking back to planting in the walled garden 100 years ago. Near the archway two milk churns can be seen as a reminder of Reaseheath's cheese making and dairy farming. Cut flowers will be placed within the milk churns to give a sense of the creative curricula at Reaseheath. A mixed native hedgerow, which is common in Cheshire, connects the past and future of land management.

The evolution of planting methodologies, from cottage garden to permaculture, illustrates current sustainable horticultural practice. The apple tree is significant within the historical context of Reaseheath apple festivals. Vertical planting is incorporated making best use of the space available to grow food. One of the key structures is a reclaimed brick-built archway, in keeping with the historic Reaseheath English Garden Bond walled garden. The heritage path is designed to demonstrate past design. At the end of the axis, hazel hurdle fencing can be seen, which illustrates an environmentally friendly boundary solution. A small wildlife pond is located on the edge of the garden in the centre of the Centenary path.

Leighton Hospital Garden

My Garden Design students were asked to submit various designs for a new garden to be built adjacent to the main entrance and car park. Their designs were to be presented to a panel of judges from Leighton Hospital alongside designs for a sculpture within the garden by students of UTC (University Technical Centre) Crewe. The winning design was by Lisa Graham and Olivia Copley who are now putting the finishing touches to the design prior to accurate costing. There has already been a budget allocated to the project by Leighton Hospital and the Mayor of Crewe.

Leighton Hospital small garden design brief:

The garden theme needs to incorporate a therapeutic, nurturing space. Having a sensory styling to hopefully satisfy the main senses, to include touch, taste, smell and sight. It should also have a focus on sustainability by potentially using recycled materials where possible. Giving it a really powerful message to help support the users in your designed quiet, reflective place either to just sit or to communicate in a space that has been screened from the centre of a busy location where there are high volumes of traffic and associated noise.

The project will also be aligned and working with the UTC (University Technical Centre) where a sculpture will also be erected as part of the themed area.

The Mayor of Crewe Town council has asked for this garden to be developed to thank the NHS for their work throughout the Covid pandemic. This garden will provide a long legacy for this really important moment in time.

Location of garden:



The winning garden:



Favourite Plants

If you have a favourite or unusual plant which you grow and think that it might be of interest to other members, why not tell us about it. Email horticultural.enthusiasts@gmail.com – we'd love to hear from you.

***Baptisia australis* by Sue Clarke**

Baptisia australis is commonly known as the “false indigo”.



In early summer it has tall spires of large deep blue pea-like flowers. I love this plant and I have grown it in my garden for about 10 years now. It's one of those plants that if you get the right spot, it will do very well in an English garden. I first planted it in semi-shade and it did nothing, so it was moved to the sunniest part of the garden and it has thrived. I usually give it blood, fish and bone in the early summer and plenty of water if it is very dry and every year it seems to get bigger and it grows to 5ft from below ground level each year.

The Royal Horticultural Society has given it its prestigious Award of Garden Merit (AGM). It is a worthy plant for this prestigious award and I look forward to it sprouting up like green worms every year!

Dates for your Diary

- Super Summer Study Day – **Thursday**, 7th July 2022 – Speakers will be Chris Beardshaw and Sue Beesley from Bluebell Cottage Nursery. We will send out more details on this event in our Spring Newsletter in April.
- Autumn Study Day – **To be confirmed**, but probably Friday, 28th October 2022
- Rode Hall is open for snowdrop walks from 5th February to 6th March, Wednesday-Sunday 11am to 4pm. Charges apply. See <https://www.rodehall.co.uk/snowdrops> for more details.