NEXT MEETINGS

Thursday 16th November - Glos. Wildlife Trust, Greystones Reserve —Tom Beasley-Suffolk

December - No Meeting, but wishing all members a very HAPPY CHRISTMAS

Friday 26th January - Social Evening , including Gardener's Question Time (more details in next newsletter)

'KNOWING' PLANTS

The more we delve into the biology of plants, the more we see how sentient they really are. Our senses (sight, smell, taste and touch, etc.), are based

on our own physiology but research shows more and more that plants respond to the same sorts of things we do and, in some cases, in a superior way.

A recent book¹ is an enlightening roundup of current research into plant sentience and it's a real eye-opener – sorry, light sensor-opener. One weedy-looking plant called *Arabidopsis thaliana* has eleven different photoreceptors to our four. Because light is essential for photosynthesis which makes food for plants, perceptions of direction, intensity, wavelength and duration of light are vital for their survival. They actually sense, and react to, a wider bandwidth of wavelengths than we do, including ultra-violet.

Plants can "smell" too. Farmers in Florida used to ripen their citrus fruit in sheds heated with kerosene, thinking the warmth ripened the fruit. It turns out that ethylene, which is a combustion product of kerosene, was what encouraged it. Ethylene is the gas given off in the natural ripening of fruit, hence tomatoes ripening induce even more of the fruit to ripen in a cascade of maturation.

Studies have shown that leaves damaged by insect attack emit a pheromone that adjacent leaves detect. These then produce increased levels of compounds toxic to attackers; not only this but the pheromones vary depending on whether the 'attack' is from insects or bacteria. Since these chemicals pass into the air flowing around the plant, adjacent plants pick them up, too, and prepare their defences accordingly. Not exactly a form of communication, but probably more efficient than fiery beacons on hills!

Plants 'know' when they are being touched and can discriminate the kind of touch. The growth of creepers and vines is accelerated when they touch something to attach to; tendrils react quickly and start to twine when a suitable support is detected. Venus flytrap plants "measure" the size of an insect landing on their open leaves and only snap closed when the prey is large enough, but not too large.



Plants sense their position in space just as we do, they know which is up and which down, responding to gravity. Plants send out signals within their systems (as we do) and although they lack a brain, they sense their environment perfectly and react accordingly. They have to because they can't change their position. The book's author concludes, "Humans and plants are both aware of complex light environments, intricate aromas, different physical stimulations, [and we] both have preferences and remember."

Geotropism (reacting to gravity) in tomato plant

1. 'What a Plant Knows' by Daniel Chamovitz.

HAMAMELIS FACTFILE: Hamamelis, or witch hazel, is a hardy, deciduous, woody shrub with clusters of spidery flowers ranging from yellows to orange-red. The flowers start to appear in the autumn as the leaves start to fall thus prolonging colour throughout the winter. *H.virginiana* usually flowers earlier than other varieties, such as *H. mollis, H.japonica and H.mexicana*. Numerous cultivars have been selected for use as garden shrubs, many of

them derived from crossing *H. japonica* × *H. mollis* to create the hybrid *H.* × *intermedia*. Three such cultivars were developed by Jelena and Robert de Belder at an arboretum in Belgium. 'Jelena' (orange flowers), 'Diane' (named after their daughter) has red flowers; 'Livia' (their granddaughter's name) has deep red flowers.

Known to be used by native Americans, the leaves and bark can be boiled to make a decoction for medicinal purposes. It continues to be used as an astringent and soothing lotion for stings, bites and general skin care. The name *Witch* in witch-hazel has its origins in Middle English *wiche*, and from the Old English *wice*, meaning "pliant" or "bendable".

WHEN TO MULCH



For most gardeners the primary function of mulch is weed control. Almost anything that covers the soil will suffice as a 'mulch', although materials such as compost, chipped prunings, lawn mowings, fallen leaves, shredded hedge cuttings are usually to hand and cost little, if anything; they have the added bonus of enriching the soil with organic matter. Earthworm numbers will increase and soil structure will benefit. Other more permanent mulches are gravel, stone and bark chippings —the list is endless! All mulches will reduce water run-off and subsequent soil erosion,

allowing the rain to percolate evenly through to the soil below.

Usually mulching is done in spring to suppress the growth of weeds although, regardless of depth, mulching will do little to control established perennial weeds such as creeping thistle and couch grass. Mulching in spring may also keep roots cooler and help with water retention. However, the downside of mulch is that it will also inhibit the plants that you want to grow. Shrubs (avoid deep mulch around woody stems) and robust perennials aren't a problem but small plants, especially with young root systems can suffer. So apparently **AUTUMN IS BETTER** - carried out after herbaceous plants have finished growing & when there's been sufficient rain - but while the soil is still relatively warm (similar to present conditions). Mulching **NOW** will help to improve the soil over winter in readiness for the spring & also suppress unwanted growth of annual weeds.

Batsford Arboretum Photographic Competition

Batsford Arboretum are offering visitors the opportunity to enter photos taken at the Arboretum to be included in the official Batsford Arboretum Calendar 2018/19. Prizes are:

Best single image: *An annual family pass to the Arboretum

*A photography course/workshop with professional photographer, Alan Ranger *A £100 cash prize

Runner-up single image: *An annual family pass to the Arboretum *A photography beginner's class/masterclass/workshop, also with Alan Ranger

All images selected for the calendar will receive a family one day pass, a photography tuition voucher worth £30

Entry is **free of charge** and images must be digital and taken at Batsford. Entries can be emailed each month or altogether before the closing date of **31st March 2018**. For full entry details see www.batsarb.co.uk

Perhaps some members have got memorable photos from our Garden Club trip to Batsford a few years ago?

Beetroot and Chocolate Cake

If you still have beetroot in the garden and have turned your back on salads, here's a good recipe to try...

50g / 2oz cocoa powder 175g / 6oz plain flour 1½ tsp baking powder 200g / 7oz caster sugar 250g /9oz cooked beetroot 3 eggs 200ml / 7 fl.oz sunflower oil 100g / 3½ oz dark chocolate, grated Oven temp. Gas 4/ 180°C / 160°C fan

Grease & line a 23cm/9in springform tin. Sieve cocoa, flour, baking powder and sugar into a large mixing bowl.

Blitz the beetroot in a food processor, add the eggs one at a time and then the oil. Blend until mixture is smooth and add to dry ingredients together with the grated chocolate. Mix well and pour into the tin. Cook for 45 minutes or until a skewer comes out clean. Cool in tin before removing and sprinkle with icing sugar to serve.

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WANTED - more members for our club.

If you know of anyone interested in gardens or gardening please encourage them to come along. The more the merrier!

Tripping the Light Fantastic

Trees, gardens and grounds are again being illuminated to herald the forthcoming.

Christmas season.

Sudeley Castle's display is Dec.8th- 30th (excluding 25th &26th) for further info see www.sudeleycastle.co.uk/spectacle or Tel:01242 705555

Westonirt Arboretum's display is Dec. 1/2/3 Dec. 7th-10th & Dec 14th-18th. More info at www.forestry.gov.uk

Tickets can be purchased online.

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The National Gardens Scheme (NGS) has been raising money for nursing and caring charities since 1927. Whether gardens are large, small, traditional or modern, NGS are looking for new garden owners willing to take the plunge and open their gardens to the public. The Gloucestershire NGS county team will advise and help

garden owners through the opening process. If you feel you could give it a go, get in touch with Vanessa Berridge on 01242 609535 or vanessa.berridge@sky.com

Whichford Pottery, the subject of one of our garden club talks, have their annual sale from Friday 17th Nov.—Sunday 3rd Dec.

Based near Shispston-on-Stour (CV36 5PG), they have been making garden pots for over 35yrs. and supply the Royal Horticultural Society and many gardens worldwide. All their pots are hand made and carry a 10yr frost proof guarantee. Further info visit www.whichford pottery.com or Tel: 01608 684416

Have you anything of interest that can be included in the next newsletter? If so please contact Di Cook (editor) at ditex.cook@btinternet.com or Tel: 01242 821018