

*Heard it on the*

# GRAPEVINE



‘Triomphe D’Alsace’, a red wine grape: the roses were once used as an early warning system for mildew but now commercial vineyards grow them only for a little extra colour for visitors and staff to enjoy in the summer

## **SARAH BELL, armed with her Brother bursary, genned up on how climate change is affecting vines, their development and about grapes of the future**

The Romans planted grape vines in England but it took another couple of thousand years for much more to happen. There are now hundreds of English and Welsh wines available, some so good they win international awards for sparkling wines and also beat champagnes in blind tastings.

Every four years wine producers, vineyard owners and scientists who grow or research wine production in a climate such as ours meet at the International Cool Climate Wine Symposium. The event was held in Britain last year so as the National Collection Holder of *Vitis vinifera* and hybrids (hardy, including dessert and wine), I went along to learn more about new varieties for cool climate regions, protected and semi-protected viticulture, vineyard soils, combating botrytis and “achieving vine balance” (getting the right amount of leaf to grape) in cool climate vineyards.

In the eight years that I have held my Collection, I’ve taken a keen interest in not only the weather but also the climate. A theme of the conference was climate change. It is not so much the measured rise in temperature, but rather the

variability of climate and climatic events that causes the most stress on vines.

Late spring frosts, extreme wind events and unseasonal cool or wet spells are a particular issue at flowering time because vines are wind pollinated. Hail, lower sunshine hours (such as in 2015 and 2016) and very wet early springs that prevent effective spraying of herbicides can all be a problem for my collection.

Climate change and pressure to cultivate vines sustainably is leading changes in commercial vine breeding but the take-up of good new cultivars is being hampered because they are unknown to the consumer.

Breeding techniques using DNA analysis and identifying the markers for important diseases such as powdery and downy mildew were discussed. These techniques have been used in other crops but are only now starting to be used in earnest in grape vines. The Julius Kühn Institute in Germany has isolated the markers for the mildews – of which there are five loci for downy mildew and four for powdery mildew.

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## THE BEST VINE FOR YOUR GARDEN

There are so many variables, I suggest thinking about the following before buying your vine. All are affected by the location – altitude, latitude, microclimate, aspect – of your garden.

- **DESSERT GRAPES:** seedless or seeded; flavour; colour; size of grape and bunch.
- **WINE GRAPES:** colour of wine (red grapes produce white wine such as pinot noir and pinot meunier, the classic Champagne grape), flavours and phenolic characteristics: florals, tannins, etc.
- **GENERAL PLANT CHARACTERISTICS:** susceptibility to disease; winter hardiness; ripening time; growing habit; decorative characteristics (autumn colour, red-coloured canes, pretty dissected leaves); cover capacity (vigour) for pergolas.

The institute is breeding and back crossing to try to develop cultivars with at least three markers of each – there are 40 combinations possible. By 2022 it hopes to have bred cultivars with 2 + 2. This is particularly important because integrated pest management (protecting the crop with a combination of chemicals, biological controls and cultural controls, such as pruning) now tops the growers' agenda. Fewer and fewer chemicals are available to both the commercial and amateur grower.



Nothing goes to waste – including the rabbits caught by Belinda, the cat, in the vineyard



© Clive Nichols

Our beautiful, dramatic Herefordshire skyline

And lest you think that disease resistance is the only goal, we were reminded that flavour, sugar and acid levels are vital for good wine. We had a wine tasting of newer cultivars, which need 70-80 per cent fewer fungicides than pure *vinifera* cultivars. Felicia (2004) seemed to have the best potential for our maritime climate, so look out for it.


Breeding programmes using more empirical approaches are still being undertaken. Valentine Blatter, a Swiss breeder, starts with 40,000 seedlings and whittles them down to those that have high levels of disease resistance and desirable qualities, such as flavours, sugar, acid and cluster architecture. The latter is particularly important in the battle against botrytis because dense bunches are more prone to the infection because of the lack of airflow.

Latent botrytis infection on just-set fruit is harboured on aborted berries, flower caps, stamens etc. When the berries are set, sub pea sized, the grower will use a leaf blower to remove the flower detritus, and by the way to toughen the skins a little.

A session on vine balance was useful in understanding the way the carbohydrates are generated, move and are stored around the plant. As the season progresses different parts of the vine are sinks (fruit are sinks because everything goes into them and usually nothing comes out) or sources of energy, and as leaves age, they become less efficient at photosynthesis. Recognising this enables a grower to manage better the vine's canopy through selective leaf removal, summer pruning, fruit thinning and green or pre-ripening harvesting to improve the chances of a good crop in a cool summer or poor early autumn.

As well as the formal sessions, talking to fellow growers proved very useful. For example, I have been growing 'Prairie Star', which, on published information, looked promising. Not for me, and I'm not alone. A vine grower from Quebec told me he'd grubbed his out. Also, when tempted to grumble about our challenges, they are nothing compared with those faced by the 90 or so Finnish vineyards.

Last year there were 502 commercial vineyards, 133 wineries, 2,000 hectares under vines and more than five million bottles of wine produced in Britain. At the conference we had a tasting of 16 English sparkling white and rosé wines. The spittoons were reluctantly used so I could still benefit from the rest of the day's sessions. The wines from Camel Valley in Cornwall, Wyfold in the Thames Valley and Bluebell Vineyard Estates in East Sussex were my highlights. Many of the 2,000 hectares are newly planted and yet to produce. I bet you can't wait...

 The author is the National Collection Holder of *Vitis vinifera* and hybrids in Herefordshire; she would like to thank Plant Heritage for recommending that she was awarded a Brother bursary to attend the conference, and to thank Brother UK for its generous sponsorship

- For vineyard and vine news follow twitter @sunnybankvines or www.sunnybankvines.co.uk
- If you are interested in growing a vine Sarah sells small quantities of own root and bare wood cuttings for your own propagation and would be happy to advise on suitable cultivars ❁



■ Sarah pruning – in 2008 she bought a new house, which came with a National Collection

## HOW WE CAME TO HOLD THE NATIONAL COLLECTION

We took on the Collection in 2008 when we bought the house where it had been planted by Brian Edwards in 2001-03. We were awarded National Collection status in 2010.

I attended the Plumpton College intensive viticulture course in 2008. At the time the emphasis was very much on the classic *vinifera* cultivars. I took along Brian's list of vines but there was little interest. This has changed – Plumpton has planted an experimental vineyard that includes cultivars we do not yet have in the Collection.

Why? Chris Foss, head of the centre of wine education at Plumpton, was quoted in the South East Vineyards Association newsletter last year saying: "Who knows what we will be drinking in 50 years' time?"