

Reliably hardy?

Is the RHS giving gardeners enough guidance on plants' ability to cope with the UK climate? Or is it time for a new system, asks **Jim Gardiner**. Photography by Neil Hepworth

THE QUESTION OF PLANT HARDINESS is rarely far from the thoughts of gardeners in temperate parts of the world and, even in a warming climate, capricious Nature can produce abnormally low temperatures – as last winter surely reminded us. This prompted some of us within the Society to consider whether the RHS is giving UK gardeners appropriate guidance on the ability of plants to cope with our climate. Kenneth Cox, Scottish nurseryman and plant hunter, and Graham Rice, plantsman and author (who spends time in both the UK and USA), suggested in *The Plantsman* (June 2010, pp114–119) we do not and that the RHS should develop a better, more accessible system of hardiness rating for the UK. The Society is well placed to be discussing plant hardiness: John David (RHS Chief Scientist) tells me there have been eight surveys published in RHS Journals since 1842, when the first system was suggested by then-Secretary John Lindley.

Current systems

Most hardiness systems used in the UK today are based on winter minimum temperatures. Probably the best known is that of the United States Department of Agriculture (USDA), first published in 1940. This is a numerically graded scale, with zones that initially used steps of 10°F, subsequently refined to 5°F.

Applying this system to our climate, most of the UK falls into Zone 7, with minimum recorded temperatures between 0 and 10°F (-18 to -12°C); Zone 8, minimum 10–20°F (-12 to -7°C); and Zone 9, minimum 20–30°F (-7 to -1°C). For the east coast of the USA, this covers the area between Washington DC and northern Florida.

The problem is the US system is not directly comparable with the UK, because climatic zones are not the same as hardiness zones. The continental land mass of the United States is vast, with much of it sandwiched between the 25°N and 45°N lines of latitude. On this side of the Atlantic, this latitude range runs from Bordeaux in southwest France to the Canary Islands off Africa. The UK in fact lies

between 50°N and 60°N, but has a maritime climate, making its winters warmer than much of the US east coast. The US continental climate produces summer temperatures and light levels that are much higher than those in the UK, allowing plants to grow more quickly and ripen wood better than they can in our duller, cooler summers. However, it is our maritime climate's mild winters but cool summers that allows us to grow such a wide range of plants.

The current RHS hardiness system is an integral part of our Award of Garden Merit plants scheme. It uses hardiness (or H) ratings of H1 to H4; H1 is for plants needing heated glasshouses, H2 unheated glass, H3 plants hardy in some regions, while H4 covers plants hardy throughout the UK. This system is too simplistic for the complexity of our climate and geography, and there is a lack of consistency within the Society – the *RHS Plant Finder* uses the 'H system', the *RHS Dictionary of Gardening* the USDA.

Looking forward

In search of a better system, I convened a working group to assess the current situation and bring forward recommendations (see box, p481). While winter minimum temperature is the most significant factor in plant hardiness, an element best described as 'robustness' also affects a plant's ability to flourish, not just its capacity to survive the occasional hard winter. Also important are methods of cultivation and each site's conditions, but allowing for these is not easy in a readily accessible hardiness system. Any new system should cover the whole plant range: glasshouse, half-hardy, bulbous, alpine, herbaceous, woody, fruit and vegetable plants.

The group drew a number of specific conclusions:

- there is a need for a new hardiness rating system specifically tailored to UK growing conditions;
- the system should be aimed at anyone growing and buying plants in the UK, but should be applicable to nearby parts of northwest Europe with a maritime influence;
- the system must be relatively simple to use and understood, even by novice gardeners;
- the existing RHS 'H system' should be revised and adapted as being the most appropriate and applicable;
- the number of bands should be increased from four to seven, with clear definitions for each band;
- we need to demonstrate why this is the most relevant UK system, and show how it relates to the USDA classification;
- maps should be developed for the revised 'H system', with contributions from gardeners and growers.

The next step is to take advantage of the expertise assembling at RHS Garden Wisley for the International Trials Conference (see p481), which will debate the merits of our proposed new RHS Plant Hardiness Rating System, and assess its relation to the USDA system. We will keep you updated on the results, and if a new system is adopted. ■

Jim Gardiner is RHS Director of Horticulture and former Curator of RHS Garden Wisley

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VIEWPOINT

HARDINESS WORKING GROUP

Do we need a better system of rating hardiness in the UK? To address the subject I tasked a working group with assessing the current situation and making recommendations for the future. Assisted by RHS Chief Scientist John David, we asked acknowledged authorities in the hardiness debate for their opinions. Plantsmen and nurserymen Chris Brickell, Bob Brown, Ken Cox, Greg Redwood, together with written submissions from Marco Hoffman, Graham Rice, Nick Dunn (for fruit) and Peter Dawson (for vegetables) helped us prepare recommendations.

Considerations included:

- Who is the system aimed at?
- What are we trying to tell gardeners?
- Are there other factors in addition to winter minimum temperatures that should be included?
- Is the USDA system appropriate for the UK, or can we produce a new system that is clearly understood?
- Would maps of hardiness zones help communicate the system?
- Are other developments needed?

The results of these discussions will be debated at the International Trials Conference this month, where the respective merits of the RHS and USDA systems will be explored. This will inform a final decision on creating a UK Plant Hardiness Rating System that is fit for purpose.

i The first RHS and International Society for Horticultural Science International Trials conference is being held 4–7 July at RHS Garden Wisley, Surrey. Key themes include plant breeding, the challenges of trialling plants, the development of award systems and growing environments.

? **What do you think?** How welcome would be a new RHS hardiness system, revised and extended to better reflect conditions across the UK? Should we continue to use one of the existing systems, whether four-band 'H rating' or USDA? Write to: Viewpoint, The Garden, 4th Floor, Churchgate, New Road, Peterborough PE1 1TT; email: thegarden@rhs.org.uk; please include a postal address