

Hop doctor

Sophie Atherton meets the UK's leading hops expert, Dr Peter Darby, whose career working with these intriguing plants spans more than three decades

The first time I met Dr Peter Darby, I was struck not just by his obviously in-depth knowledge of hops, but also his genuine – and expressive – enthusiasm for them. All too often, you meet people deemed to be experts, who seem bored by their specialist subject, but Peter is enthralled. Not only is he happy to share his knowledge, he wants you to be as fascinated as he is, once telling me that the most important fact about hops is that “there is more to find out than we’ve already found out”. In short, working with hops is never boring.

Peter's career in hops spans 35 years, so it's entirely legitimate to describe him as the UK's leading hops expert. Today, he runs Wye Hops Ltd – the successor of the hop-breeding programme at Wye College – and is the consultant for the British Hop Association's efforts to breed new UK varieties. He also works on projects beyond the UK – such as leading the Alsace hop-breeding project in France.

Before we go any further, I'll answer what I'm sure is your burning question. Does Peter like beer? Of course! His first beer, while he was living in Scotland, aged around 18, was a can of McEwan's Export (4.5 per cent ABV). His first pint of cask ale, which he fondly recalls, was Adnams Broadside (4.7 per cent) at a squash club in Norwich where, at the University of East Anglia, he was studying plant biology. He also inadvertently took part in a beer taste test around the same time.

“I can remember walking past the Theatre Royal in Norwich and a lady coming out and asking if I would like to take part in a taste trial, as they were trialling a new beer. I had to do a sort of triangle test. It was all anonymous; there were three beers, and I was asked if I could distinguish between them, which I preferred and if I would order it again.”

But despite this early foray into the beer world, at the time Peter had no thoughts of working in the area. Plants were his

passion. After completing his first degree, he stayed on to study for a doctorate in the genetics and pathology of plants. He then took a job as a lecturer in plant physiology and genetics at Keele University in Staffordshire. So, if not a love of beer, what led Peter to focus on hops?

“The driving force was working with plants, the biology of plants with diseases and the genetics of plants, but what took me out of academia was that all the positions were short-term appointments and, more than anything else, me and my fiancée at the time – now my wife – were looking to settle down.”

While leafing through the pages of *New Scientist*, Peter spotted an advert that said ‘hop breeder required’. It was a permanent position at the University of London's Wye College in Kent – home of Britain's hop-breeding programme, originally led, from 1906, by Professor Ernest Salmon. Dr Ray Neve took over in 1953 and – although he didn't know it when he attended a ‘muddy boots’ job interview in 1981 – it would eventually be headed up by our real ale hero Peter.

Most of those reading this will be well aware of what hops

mean to beer and what they do in a brew. But what enables hops to go from the ground and into your pint is far from simple, and it's this that's kept Peter busy for more than three decades.

As well as the flavour, aroma and bittering qualities of hops, several other factors are of vital importance for growers and brewers to rely on a regular and consistent supply: how well they grow; how many flowers each plant produces; when they will be ready to harvest; how easy (or difficult) they might be to pick; and their resistance (or susceptibility) to disease.

This is the essence of Peter's current work – breeding hops that taste and smell appealing and trying to ensure those varieties produce plenty of easy-to-harvest hops at the right time. 🍷



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Hop plants can be male or female – which provides the basis for breeding them – and each seed is potentially a new variety, but not all of Dr Darby's seedlings will culminate in the glory of the beer glass.

Some 18,000 hop seeds are planted for his work annually, and they will be subjected to an 'epidemic' of downy and powdery mildew (hop diseases). Most won't make it out of the greenhouse. Only the survivors get planted and grown. Then, if you're a female plant, you can expect to be shoved in a bag to make sure you don't breed with a male Peter doesn't want you to consort with. Only when he is sure you have done what he wants will the bag come off.

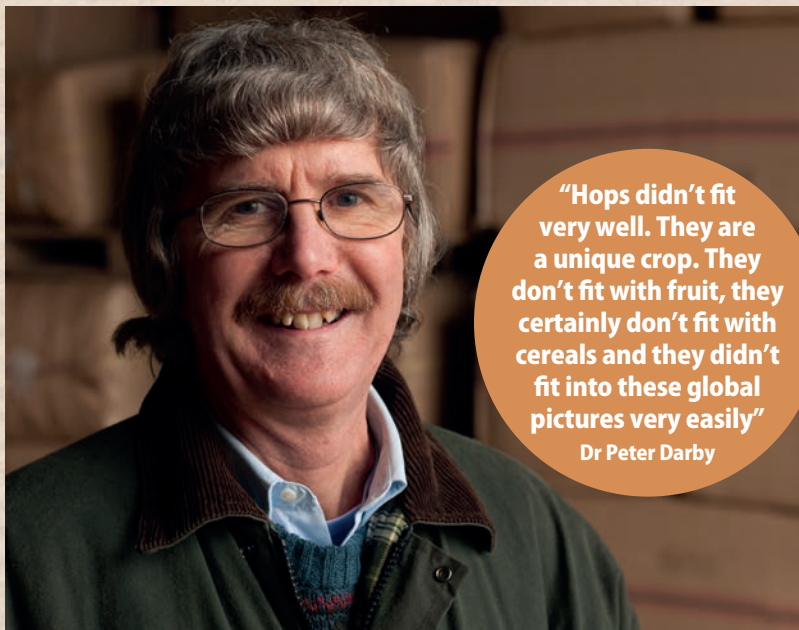
Elsewhere, in another country, far from the Kent farm where Wye Hops is based, Peter's hops are subjected to wilt – a disease so severe that it can wipe out not just whole crops, but also contaminate entire hop-growing areas. There's also aphid-resistance testing.

Basically, if you are one of Peter's hops, you can't expect an easy life, but if you survive, you might yet make brewing history.

Among Peter's achievements are the development of dwarf hops – which require fewer pesticides, less water and are easier to pick than conventional hops, and he is responsible for varieties such as First Gold. This variety is now used in the first cask beer he ever tasted, Adnams Broadside, as well as in Badger's First Call (4 per cent), and even carries the rather modern accolade of being named one of BrewDog's top hops (the brewery blog praised its "peachy, champagne aromas" and "subtle tangerine flavours").

Other varieties he's developed during his career include the first aphid-resistant hop, Boadicea, along with varieties Endeavour, Pilgrim and Pilot. Look out also for an amazing, big-flavour hop known as OZ97a, which was one of Professor Salmon's last varieties, but was rescued and revived by Peter, and should have a name by the time you read this.

Were it not for Peter's dedication to hops – and to a career in hops – the work of the renowned and influential British hop-breeding programme begun at Wye College more than 100 years ago might have been discontinued. In January 2006, Peter was told the project was to finish. Much of the programme's funding came from the government's Department for Environment, Food & Rural Affairs (Defra). When Defra changed its criteria for research funding to focus on global issues, such as climate change and sustainability, rather than commodity-based individual projects, Peter's department lost two-thirds of its income. By this time, he was in charge of the programme, having taken over from Neve when he retired in 1984.



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"Hops didn't fit very well," he says. "They are a unique crop. They don't fit with fruit, they certainly don't fit with cereals and they didn't fit into these global pictures very easily."

The hop-breeding programme had, in fact, been at risk of loss of funding since the mid-1990s, and Peter took on consulting work and even set up hop-breeding projects overseas to help fund his work in the UK. This would stand him in good stead for when the axe fell at Wye College.

"I immediately phoned the then chairman of the British Hop Association, Tony Redsell, and we got together the next day and put together a plan. This was January or February, before the propagation season, before the seed sowing, so we had over a year. If it had been later, it would've been too late to propagate material and take it with us, but it allowed us to get everything in. So, the day after being told it was closing, we had a plan in place and were starting to work on it."

Peter later found out that Wye College itself was closing; there was no going back. He concluded his work there and restarted at China Farm near Canterbury – taking with him his (then) 25 years' expertise and what he describes as a continuum of the overlapping experience of himself and his two predecessors.

"We were the forerunners and we'd always had an innovative programme. It had everything going for it and was too good to lose. I like to feel I've helped sustain the British hop industry," he adds modestly. "The main varieties are still Goldings and Fuggle, but it's the other varieties that have sustained the industry, so those two principal varieties continued to be grown. If there was [still] only those two, I don't think the industry would survive."

As with our knowledge of hops, there is much more to say about Peter than can be fitted here. You can be sure, though, his achievements make him even more than a real ale hero.