

Who owns nature?

Michael Wickenden considers the implications and ethical validity of Plant Breeders' Rights

At first sight this may seem like one of those tiresome rhetorical questions popular with journalists trying to create a controversy to write about. Surely the whole idea of owning Nature is ridiculous, it 'belongs' to humanity in general and, indeed, humanity belongs to it. However, over the last few years this has become a very real question for those of us who propagate plants for sale or buy them at nurseries and garden centres.

The plants in your garden still belong to you but the right to propagate them for sale, in some cases, does not. This became possible when naturally occurring genetic material was admitted into the domain of intellectual property, to which Plant Breeders' Rights (PBR) claim to belong. Copyright is a more familiar form of intellectual property; you can own a copy of a book but not the right to reprint it for sale. Clearly, a book is the genuine product of someone's intellect whereas a plant is a product of nature - this begs the question as to why one person rather than another should be able to patent something they did not create. The answer from those pushing PBR has always been that the enormous amount of work involved in breeding a plant justifies the right to patent it. I intend to look at how this claim has been used and abused to create the system we have now.

Origins

Plant Breeders' Rights go back to the early 1950s when a few agricultural seed companies, led by the redoubtable Sir Joseph Nickerson, decided they needed to recoup their investment on the wheat varieties they had 'so patiently, painstakingly and expensively produced', to quote his biography (Whitlock, R. *Roots in the Soil*, Plas Enterprises, Hertford, 1987). Their campaign suffered a set back when the Seed Trade Association voted against PBR by 156 to 4 but Sir Joseph knew that there was only one vote that mattered, the parliamentary one. As the time for this approached he took a suite at The Dorchester where members of the House of Commons were invited to discuss the benefits of PBR, and he telephoned every member of The Lords. The Plant Varieties and Seeds Act became law in 1964 and forms the basis of the current PBR system.

Under the 1964 Act PBR could only be applied to plants within genera (or larger plant groups) that had been accepted into the scheme by a parliamentary procedure called a statutory instrument. Initially these plant groups were chosen because they were the subject of existing breeding programmes. I am aware of 40 such groups entering the PBR system during the first 20 years of its existence. Of these 28 were agricultural, 4 were cut flowers and only 8 were ornamentals. During the final 12 years of the system up to 1997 I know of 13 groups that were accepted of which 8 were ornamentals. This illustrates the drift away from agricultural crops that had been the subject of genuine breeding work and towards ornamentals that, especially in the later years, had often not been bred. However, under this relatively controlled system, it was less important than it became subsequently that applicants did not have to show they had done actual breeding work to get a licence.

In June 1997 Jeff Rooker, the Labour Minister of State for Agriculture introduced a new Plant Varieties Act to MPs with the suggestion that 'A robust system of plant protection is essential to provide the necessary incentives to investment in plant breeding.' (Hansard, 24 June 1997, vol. 296). This investment is, he says, 'made over many years' (ibid.). MPs are assured that '80% of the bill's contents are simply existing legislation' (ibid.). The remaining 20% contained several changes from the 1964 Act of which the most important was that all plants can now be granted PBR rather than just the previous 200+ specified genera. This brought numerous genera with no history of breeding into the scheme, and there was still no requirement for the applicant to show that any breeding work had taken place. The inevitable result is that many of the ornamental plants currently bearing PBR were simply found by chance or collected in other countries. The public are being charged royalties for plant breeding that, in many cases, has never taken place.

It is hardly surprising that none of the few MPs who took an interest anticipated this because the bill was rushed

through in a single day a few weeks after the Blair government got in. There was no public response to the publication of the bill because of the election campaign and most of the debate was taken up with agricultural matters or irrelevant maiden speeches. Several MPs complained about the bill having all its stages in one day but only Norman Baker, Liberal Democrat for Lewes, to his credit, asked any pertinent questions. His amendment, 'No variety which occurs naturally shall be the subject of a grant of Plant Breeders' Rights' (ibid.), shows he was aware that there was a potential problem, but he got no support. Rooker dismissed it as 'unnecessary' because, 'If a breeder discovers a plant growing in the wild, he must carry out significant selection and re-crossing to establish distinctness, uniformity and – most important – stability. Wild plants invariably lack uniformity and stability, so it is not just a question of discovering something that is in the wild; the breeder must develop and do something about it' (ibid.). I have quoted this passage in full because it shows the Minister's lack of familiarity with the subject (any individual wild plant propagated vegetatively is normally uniform and stable) and because it is strikingly contradicted by the following quote from the official guide to the legislation he was defending, 'At its simplest, development might involve replicating the variety to produce sufficient stocks to make it commercially viable.' (Guide to the Plant Varieties Act 1997, MAFF, 1997). So, instead of 'significant selection and re-crossing', all the applicant has to do is propagate the plant for sale, which he will have to do anyway!

Another objective of the 1997 Act was to bring the UK PBR system into line with the European Community scheme which was itself based on an international convention in which the UK had played a major role. The EU scheme gives protection in 15 countries (25 since May 2004) instead of just one and it opened up to all plants, as opposed to the specified groups, two years earlier in 1995. Since then most UK applications have been with the EU system. Apart from these points the two systems operate in the same way and the problems that I have identified in this article apply to both. The EU do not require proof that breeding has taken place and, as for wild plants, the EU Plant Variety Office confirmed that to patent, 'a plant species of wild origin the variety must be distinct to the normal type form of the species' (pers. comm. by email 6 Oct 1998). Although every individual wild origin specimen will correspond to its species botanically, many will differ in flower colour, habit or whatever, so, under this criterion, many wild plants are eligible for PBR. In these cases it is natural diversity that is being patented rather than any human input.

The other important change in the 1997 Act is the introduction of a one year period during which someone with a plant they are thinking of patenting can sell it to 'test the market', without prejudicing their chances of obtaining PBR later on. Sales made before the one year period do not disqualify the plant if they happened without the consent of the applicant. This is fine for the applicant (I refuse to call them 'breeders') but not so fine for other growers who can buy the plant and propagate it only to find that they are not allowed to sell the results of their work. I know of one small nursery that turned over much of their production to bulking up *Astrantia major* 'Roma', and produced 10,000 plants; they were only allowed to sell 500 on the open market, and this as a favour. Jeff Rooker assured Norman Baker that the bill does not, 'allow or provide for retrospective payments' (Hansard, 24 June 1997, vol. 296) but the Rights certainly are retrospective.

Current situation

One of the many problems associated with PBR is that there are no enforced rules on labelling. PBR plants that are labelled are often marked 'propagation illegal' which is untrue, it is propagation for sale that is prohibited. BBC Radio 4's Gardeners' Question Time on 19 October 2003 included a question from a member of the public about a lavender labelled in this way – was she really not allowed to propagate it? She was correctly advised, but the misleading label was excused with the words, 'it's just the nurseryman protecting his rights'. One could say it is the nurseryman increasing his sales by telling the public that they are not allowed to propagate a plant for their own garden or to give to friends. This is typical of the strangely timid approach of the media to this subject.

Another example of this could be heard on BBC Radio 4's Law in Action on 15 October 2004. The piece was based on interviews with one of the half dozen London lawyers who specialise in PBR disputes and with Dick Stayward, a 'policy worker' at the PBR office, both of whom have an interest in the current system. An interview with me, putting many of the points in this article, was recorded but not used. Mr Stayward took the tradition of misleading the public down to a new level by suggesting that PBR are justified because 'someone might spend £10million on breeding a plant' – pretty rich, considering many of the PBR plants offered to the public have not

had a single penny spent on genuine breeding work.

It is not just the media that has failed to get to grips with this subject. I have spoken to horticultural students from several countries about PBR and none of them know anything about it, including those studying in Angers in France where the EU PBR system is based. Horticultural education in the Czech Republic is particularly good but the students learn nothing about PBR, even though their country is now signed up to the system.

Even wholesalers' catalogues frequently list PBR varieties with no indication of their restricted status. This is partly because it is so difficult to find out if a plant is covered or not. The Plant Variety Offices, incredibly, do not have accessible lists of currently protected varieties under their marketing names, only under their registered names which are usually unmemorable codes. For example, *Crococsmia* Jenny Bloom is *Crococsmia* 'Blacro'. If you do not have the name 'Blacro' it will, in my experience, be very difficult to find out if it is covered. Some nurseries refer to the RHS Plant Finder which, although an excellent reference work, does not pretend to be an up-to-date complete guide to PBR. Dick Stayward's advice to the Radio 4 listeners was to contact the British Society of Plant Breeders to find out what is covered. Presumably this 'policy worker' did not know that this organisation only deals with agricultural varieties and refers enquiries on ornamentals back to his office.

Another potential problem is the possibility of worthy old garden varieties being dropped by influential, PBR-orientated wholesalers in favour of similar or inferior 'new' ones that attract a royalty. Some nurseries simply rename PBR plants to avoid the royalties; others rename old varieties to get PBR. This lack of regulation has attracted a new breed of 'marketing consultants' into horticulture. One of them attempted to charge me royalties on plants that turned out to be non-PBR as well as threatening a fellow nurseryman on the phone because he had been selling a variety that was to be patented in the future, although he could not have known this. Their advertisements encourage the public to bring them any exciting new plants they have 'found' (no pretence here that any breeding has taken place.) They obtain PBR and market the plant, for a percentage. You will then become rich without having to do any work, rather like the lottery.

PBR are, at best, a way of extracting extra profits from the public, spuriously justified by telling them that they are paying for plant breeding. At worst they are part of a global trend towards the patenting of the natural world that could result in a significant part of the genetic resources that mankind depends on, including food and medicinal plants, being owned by people and corporations who have, in many cases, done nothing to create or even modify them.

The final responsibility lies with the government rather than with nurserymen. Having created the problem with bad legislation, they charge £1,000s for PBR licences whilst failing to regulate the system for the protection of the public who end up paying for it all.

Solutions

I suggest that the only way this scheme can become respectable is by having a strict definition of 'plant breeding' (selecting a seedling is not plant breeding), and making sure applicants fulfill it. This would not be difficult since genuine breeding generates lots of written records and they are never destroyed. Many PBR plants in the ornamental sector would no longer be covered. The other, even better, option is to remove natural material from intellectual property altogether so that it is freely available to anyone with the energy and ingenuity to make use of it, as has always been the case. There would be nothing to stop the owner of a new plant keeping it to himself while he bulks it up, doing the marketing and getting a premium price for the first few years, or selling it exclusively to a nursery that would do this and pay him a royalty. Once the plant has been released for sale, competition will ensure that the most efficient nursery has the advantage, which benefits the public.

Apart from a successful legal challenge to all or part of the PBR system (nothing has ever been tested in court), the only hope of reforming it is to inform the public and hope they have the same reaction as they did to having genetically modified food forced on them – they stopped buying it. As soon as being a non-PBR zone is a commercial advantage for a nursery the battle is won.