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Plant Patents – An alternative for the Nursery Industry

There are a range of intellectual property laws associated with plants, trademarks and associated contracts. Recently, patent law has become more widely utilised providing an additional tool for the Nursery & Garden Industry to assist with the protection of intellectual property involved with the breeding, selection and selling of new plant varieties. In this Nursery Paper, Robert Chin, Nursery Industry Development Officer for Victoria will introduce you to the process of plant patents and how they may affect the way you protect your plants into the future.

Soy beans, their breeding and their products are commonly patented in Australia

Plant Patents – An alternative for the Nursery Industry

What is a patent?

A patent is a right granted for any device, substance, method or process which is new, inventive and useful. A patent is legally enforceable and gives the owner the exclusive right to commercially exploit the invention for the life of the patent. A patent is not automatic; you have to apply for it. In Australia, patents are granted by IP Australia – the same organisation that administers trade marks and Plant Breeder's Rights (PBR). All applications for patents are examined to ensure they meet the necessary legal requirements. Australian patents generally last for 20 years.

Some important history

In 1961 the International Convention for the Protection of New Varieties of Plants (UPOV) was introduced. Nearly 20 years later, Australia enacted the Plant Variety Rights Act 1987, which was subsequently replaced by the Plant Breeder's Rights Act 1994. While PBR remain the most common form of protection for new plants, other forms of protection have included trade marks and contracts.

In relation to the patenting of plants, in the landmark case of *National Research Development Corporation v Commissioner of Patents (1959)*, the High Court held that agricultural and horticultural methods per se were not exempt from patentability. Later, in *Grain Pool of Western Australia v Commonwealth of Australia (2000)*, the High Court held that the 'effect of the decision in National Research Development Corporation is to confirm that there is no intrinsic impediment to the patentability of plant varieties'.

The decision of the Assistant Commissioner of Patents in *Ranks-Hovis McDougall Ltd's Application* signalled a change in the Australian Patent Office's attitude towards the patenting of living organisms. In that case, the Assistant Commissioner accepted a number of claims to mutant strains of a microorganism on the basis that the mutant strains had been produced by a 'man controlled microbiological process' which resulted in the strains having 'improved or altered useful properties'.

A number of cases have clarified that in Australia, plant varieties and processes in breeding of plants are patentable. The first plant granted a patent in Australia was the 'Scotts Sunrise Aurora' Cymbidium Orchid from Adelaide Orchids Pty Ltd in May, 1981.

Scott's Sunrise Aurora' Cymbidium Orchid – the first plant granted a patent in Australia

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Trade marks, plant breeders rights and contracts

Traditionally, the most common ways of protecting plants are with PBR, trade marks and contracts. However, patents for plants may become more popular in Australia which is likely impact on the management, research and commercialisation practices of the Australian horticulture industries.

Two Types of Patents

In Australia we have two different types of patents:

1. A Standard Patent - which gives protection over an invention for up to 20 years; and an
2. Innovation Patent, which lasts for a maximum of eight years and requires a lower threshold of inventiveness (an 'innovative step' as opposed to an 'inventive step'). Currently, Innovation Patents are not applicable to plants or plant processes.

What is the criteria for patent protection?

Like PBR, to be successfully patentable, plant material and breeding methods must satisfy some criteria before they can be protected. A successful candidate for a patent must satisfy the following criteria:

- Manner of new manufacture: a patentable invention must be a 'manner of new manufacture'. In legal terms, this requires an 'artificially created state of affairs';
- Novelty: an invention will be novel if it has not been publicly disclosed prior to the date of the patent application anywhere in the world – whether by doing an act or in a document. For example, the publication of research may be problematic for novelty;
- Inventive step: this means that the invention must not be an obvious step to take or thing to try. Whether or not your invention involves an 'inventive step' is judged according to what a non-inventive skilled person in that field would try if faced with that problem;
- Useful: this does not meant that the invention is worthwhile or practical but rather that it does what it is intended to do;
- Not secretly used: an invention must not be secretly used. This will not include 'reasonable trial or experiment'.

Patents for Plants

Patents are generally available for products and processes (or techniques) that are new, involve an inventive step and are useful. The owner of a plant patent obtains exclusive rights to the invention as:

- A Product – For example a plant variety
- A Process – For example a plant breeding method

What can be patented?

IP Australia has released an information paper which clearly outlines what can and can't be patented. The paper *Australian Patents for Plants* states that there is a range of patentable subject matter for plants including:

- new plant varieties;
- plant components such as genes and chromosomes;
- reproductive material (for example, seeds and cuttings);
- products from plants including fruit, flowers, oils, chemicals or pharmaceuticals;
- genetic engineering techniques; and
- breeding and cultivation methods.

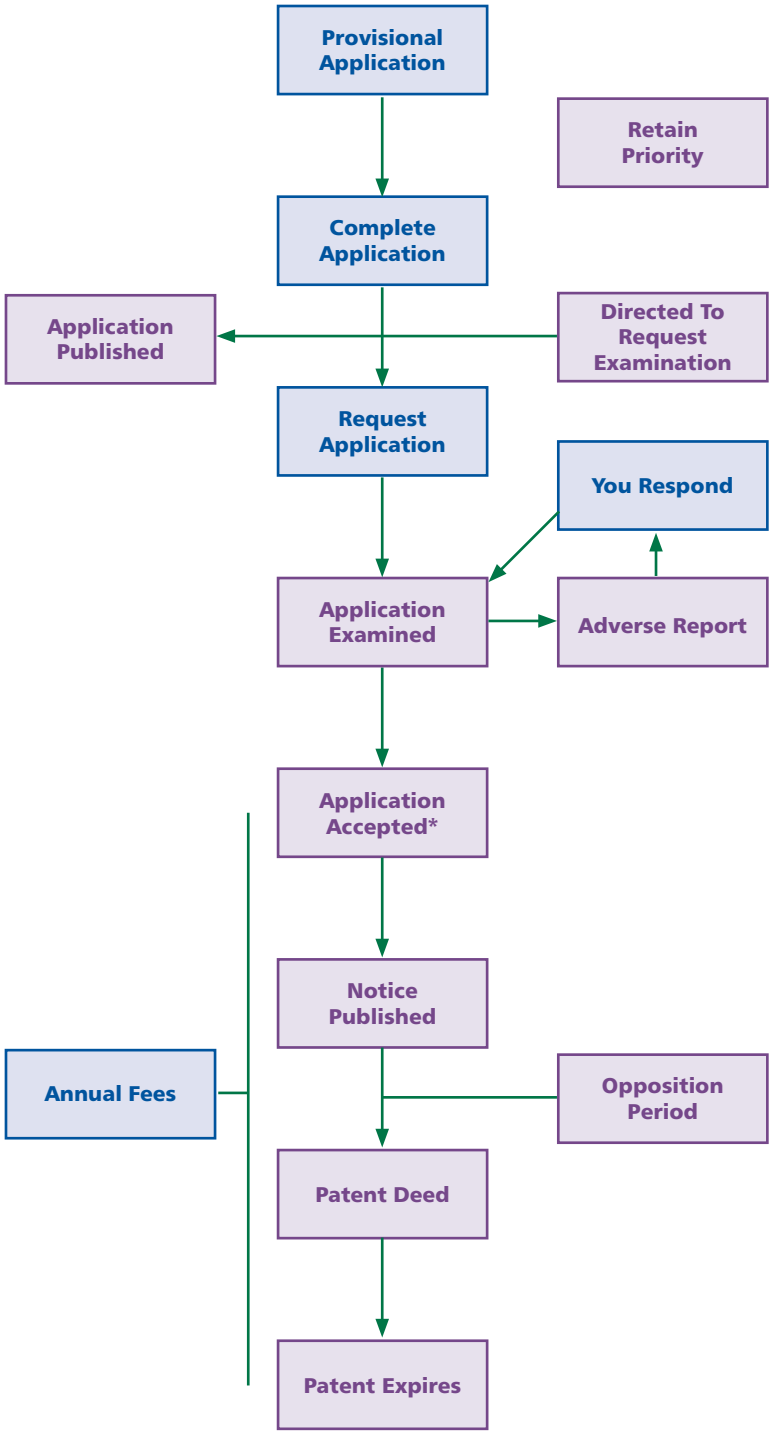
Mango B74 (aka Calypso) has been patented by One Harvest after breeding and selection work done by the Queensland Department of Primary Industries.

Here are some examples of plants/plant processes that have been patented in Australia so far:

- 75801 / 91 - An improved rapeseed exhibiting reduced fatty acid content
- 14710 / 92 - Herbicide resistant wheat
- 32313 / 97 - Suppression of specific classes of soybean seed protein genes
- 84955 / 01 - Plants infected with nontoxic endophytes
- 2002214804 - Barley with reduced SSII activity and starch containing products with a reduced amylopectin content
- 2004201082 - Novel gene combinations that alter the quality and functionality of soybean oil

The patent process

The following is a flowchart of the process for gaining patent protection in Australia. It is supplied by IP Australia.



* Note: Not all patent applications are accepted

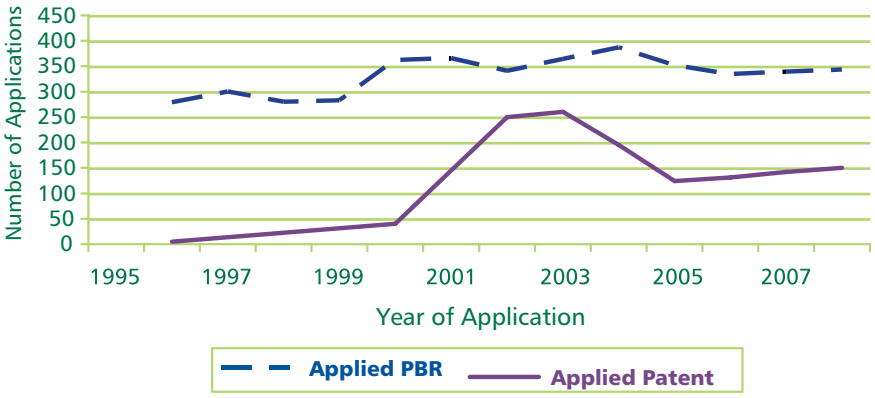
Patent law and patent use in Australia.

Plant patents in Australia have been possible for some time now but not heavily utilised. Patent law in Australia now falls under the Australian Patents Act 1990. There are typically about 150 applications for plant patents in Australia per year. The majority of patent applications related to plants have been for biological information and gene sequence patents.

Patents versus Plant Breeder's Rights

There are some major but important differences between the plant patenting and PBR. These are briefly described below:

- **Breeders/Research Exemption:**
  Unlike PBR, there is no statutory research exemption under Australian patent law. This difference could be one of the reasons for the increasing interest in the use of patents to protect plant innovation. Therefore, any use of a patented invention without the prior authorisation of the patentee will constitute prima facie infringement of the patent.
- While it has been suggested that a research exemption will be introduced into Australian Patent Law, the scope of such an exemption is unclear. At this point in time, scientists and breeders cannot use patented plant material or processes in their research without seeking the permission of the patentee.
- **Farm Saved Propagating Material:**
  Under PBR, in limited circumstances there are exceptions to the rights of the plant breeder, including farm-saved propagating material. In contrast, Australian patent law does not include an equivalent exception. As a result, any grower that saves patented seed (for any purpose) is infringing the patent holder's right.
- **Cost:**
  Cost of Plant Patenting will generally be dearer than PBR initially but will often cost less over the duration of the protection period.



PBR of plants compared with Patents in Australia (ACIPA 2009)

Other considerations

Plant patents and breeding:

It is not possible to use patented plant material in breeding programs without the consent of the patent owner.

Confidentiality:

If you demonstrate, sell or discuss your invention in public before you file, you may not get a patent. You can talk to employees, business partners or advisers about your invention but only on a confidential basis.

Plant patent in the United States is different:

There are significant differences between the Australian and the US patent systems. Be aware of this when you are dealing with American nursery businesses. In the US they also have Utility Patents.

Conclusion

The nursery & garden industry spends a lot of time, effort and money bringing new plants onto the market and in the breeding and selection of those plants, therefore all breeders and selectors should consider ways to protect their efforts. Plant patenting should be considered as a means of protection alongside PBR and trade marks. If you are considering intellectual property protection it is highly recommended by NGIA that you seek expert independent advice, it will be worth the effort in the long term.

Disclaimer

This Nursery Paper is for general information and the information is considered correct at the time of publication. It is not to assist you in understanding your legal rights and obligations. NGIA strongly suggests that you seek independent expert advice in this area and that you do not treat this document as legal advice. It is not tailored to any particular fact situation or specific requirements.

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References

- Australian Centre for Intellectual Property in Agriculture has a wide range of resources associated with Intellectual Property and Agriculture and Horticulture. Visit: www.acipa.edu.au
- Jay Sanderson and Stephen Hubicki et al 2009. The Potential Impact of Patents on Australian Horticulture Industries, Australian Centre for Intellectual Property in Agriculture (parts of this report were reproduced (or used) in this paper with the permission of the authors).
- Australian Patents for Plants, 2009. IP Australia, Australian Government. www.ipaustralia.gov.au/patents/ IP Australia also has a range of other publications and resources on its website.
- Nursery & Garden Industry Australia – Nursery Papers:
  - Plant Breeder's Rights - An Australian Nursery & Garden Industry Perspective: 2008/01
  - Plant Intellectual Property: 2007/05

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