

Protecting Plant Innovations: Patents in United States, Australia, and New Zealand

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The development of new plant varieties can be a costly and time-consuming process. To incentivize breeding endeavors, governments around the world have developed legal mechanisms that effectively provide breeders with a period of market exclusivity in which to commercialize their new variety. The mechanisms vary from country to country, and this article briefly reviews those available in the United States, Australia, and New Zealand.

UNITED STATES

In the United States, new plant varieties can be protected in three primary ways: (1) plant variety protection (PVP); (2) plant patents; and (3) utility patents.

Plant Variety Protection

The Plant Variety Protection Act provides intellectual property protection for sexually reproduced and tuber-propagated plant varieties. Unlike patents, which are administered by the U.S. Patent and Trademark Office, PVP certificates are administered by the Plant Variety Protection Office; a division of the U.S. Department of Agriculture. To be granted a PVP certificate, a breeder^[1] must demonstrate that the variety is new, distinct, uniform, and stable.

The term of PVP is 25 years for vines and trees and 20 years for all other varieties. The owner of a PVP certificate has certain rights that may be enforced. For example, the owner may seek civil damages and injunctive relief for acts relating to the unauthorized sale, marketing, importation, or propagation of a protected variety. A cause of action may also exist against those inducing any of the infringing activities.

There are important exemptions to infringement of PVP. First, there is a noncommercial use defense to infringement. Second, farmers have the right to “save seed,” i.e., to retain and produce additional crops using the seeds of a legitimately obtained PVP-protected variety. Third, farmers may sell protected seeds for purposes “other than reproductive purposes,” such as for oil production or for use in food as an ingredient (e.g., sesame seed). Certain of these exemptions, such as the “saved seed” exemption and sale for nonreproductive purpose exemption may, however, be limited by contract.

Finally, a research exemption allows protected seeds to be used to develop new varieties. The exemption has certain important limits: (1) it is limited to researchers with access to seeds; and (2) there is no requirement that seeds be provided publically for research.

Of the options available to breeders, PVP protection is often the simplest and least expensive form of protection that can be obtained in a timely manner.

Plant Patents

Plant patents are available under 35 U.S.C. 161 and provide protection to anyone who invents or discovers new, asexually reproduced plants.^[2] Asexual reproduction includes, but is not limited to, rootings, cuttings, apomictic seeds, division, layering, runners, tissue culture, grafting, budding, bulbs, slips, rhizomes, corms, and nucellar embryos.

Plant patents are available for sports, mutants, hybrids, transformed plants, algae, and macro fungi, but they are not available for tuber-propagated plants where the tuber itself is a food product (e.g., a potato) or plants discovered in uncultivated states.

Applications for plant patents must include a full botanical description of the plant, including characteristics that distinguish it from known plants. The application must also comport with other patentability requirements, including the requirements for novelty and nonobviousness.

Like utility patents, plant patents confer protection for 20 years from the date of filing the application. Owners of plant patents may exclude others from, among other things, making, using, selling, and offering to sell, the protected plant. Plant patents do not allow for the same exemptions to infringement as PVP. However, as they are only available to a subset of genera, they may be of limited use in certain industries.

Utility Patents

Utility patents are the “standard” type of patent that inventors use to protect new and useful inventions such as machines or processes. However, a utility patent can also be used to protect a new type of plant, plant part, or a novel use of a plant, assuming all the other requirements for patentability are met (such as novelty and nonobviousness). Methods of asexually reproducing a plant protected by a plant patent may be protected in a utility patent as well. There is no restriction on the type of plant that utility patents may claim, but they may be more difficult to obtain than a PVP certificate or a plant patent due to the rigorous examination process and the breadth of the subject matter claimed.

A thorough portfolio of intellectual property protection for sexually reproduced plants will often involve both PVP certificates and utility patents. PVP certificates can often be obtained relatively quickly compared to utility patents, while utility patents can provide a broader scope of protection.

AUSTRALIA

In Australia, new plant varieties can be protected by plant breeder’s rights (PBR) or patents or both. Compared to patents, PBR are generally cheaper and simpler to obtain; however, the scope of protection they afford is more limited.

Plant Breeder’s Rights

To be eligible for PBR protection, a plant variety must be new or only recently exploited, it must be distinct from any other variety whose existence is a matter of common knowledge, it must be uniform across siblings, and it must be stable across generations.

The term of a PBR is 25 years for trees and vines or 20 years for all other varieties. The protection afforded by PBR relates primarily to propagating material of the plant variety and includes the exclusive right to:

- produce or reproduce the material;
- condition the material for the purpose of propagation;
- offer the material for sale;
- sell, import, or export the material; or
- stock the material for any of the above purposes.

A PBR can also extend to so-called “dependent varieties” and “essentially derived varieties.” Dependent varieties include plants that can only be reproduced by the repeated use of the protected variety, whereas essentially derived varieties include plants that are predominantly derived from the protected variety, retain its essential characteristics, and do not exhibit any important (as distinct from cosmetic) features that differentiate it from the protected variety. In certain circumstances, PBR can also extend to material harvested from the propagating material and products made therefrom.

Certain uses of propagating material are exempt from infringement of PBR, including use of the propagating material for private and noncommercial purposes, experimental purposes, and, importantly, for further breeding (the “breeder’s exemption”). In addition, the so-called “farmer’s exemption” allows farmers who have legitimately obtained PBR-protected material to further propagate that material for the purpose of planting a new crop.

Standard Patents

Patents are not limited to plant varieties *per se* and, as such, offer much broader protection than PBR. Importantly, patents also avoid the breeder’s exemption and the farmer’s exemption.

Unlike in Europe, where plant varieties are excluded from patent protection, Australia does not exclude claims directed to a new plant variety. Indeed, the High Court of Australia has confirmed Australia’s position that there is “no intrinsic impediment to the patentability of plant varieties.”^[3] Further, claims directed to conventional breeding methods are also permitted under Australian law. Consequently, an Australian standard patent may include claims directed to a plant variety, a plant *per se*, and a method of its production, among other things.

With the broader protection offered by patents comes the need to meet the threshold of inventive step (nonobviousness). However, the standard for establishing an inventive step in Australia is generally lower compared to the United States. Although there is no caselaw in Australia specifically dealing with the issues of plant breeding and inventive step, it is clear that conventionally bred plants can meet the Australian requirements of inventive step.

NEW ZEALAND

Plant varieties can be protected in New Zealand under the Plant Variety Rights(PVR) scheme. Since September 13, 2014, “plant varieties” have been excluded from patentability in New Zealand, however, there is no explicit exclusion to the patentability of plants *per se*, plant parts or methods of producing a plant.

Plant Variety Rights

To be eligible for PVR protection in New Zealand, a plant variety must be new, distinct, homogenous, and stable. Upon registration, a PVR holder has the exclusive right to produce reproductive material of the variety for sale, sell reproductive material of the variety, propagate the variety for commercial purposes, and import produce of the variety. The term of PVR is 23 years for woody plants or 20 years for all other eligible varieties.

Like Australian PBR, the scope of PVR protection in New Zealand is limited by a number of important exemptions to infringement. Propagation, growth, and use of a protected variety for noncommercial purposes, as well as use of the reproductive material for human consumption or other nonreproductive purposes, are all exempt activities, as is the use of a protected variety for further breeding, as long as the variety is not used repeatedly for the commercial production of F1 hybrids.

Patents

New Zealand’s Patents Act was recently amended such that plant varieties are no longer patent-eligible subject matter. This exclusion mirrors Art 53(b) of the European Patent Convention and so, as in Europe, it is possible that plants *per se* will remain patent-eligible in New Zealand. Unlike in Europe, New Zealand does not exclude “essentially biological processes for the production of plants” from patentability.

A VARIETY OF OPTIONS

A variety of options are available for obtaining multijurisdictional protection for new plants and plant varieties. A determination of the most appropriate forms of protection will require a consideration of the rights provided by each and the requirements that must be met to obtain them.

[1] The certificates may also be obtained by the successor in interest of the breeder.

[2] To be eligible for a plant patent, the plant in question must be asexually reproduced. However, if the plant is also capable of sexual reproduction while maintaining the characteristics described in the plant patent, then the sexually reproduced plants can still be found to infringe a plant patent.

[3] *Grain Pool of WA v Commonwealth of Australia* [2000] HCA 14, [46].