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Variety is the spice of life

Bitika Sharma looks at the interplay between plant variety and patent protection in India, and considers the situation in the US, Canada and Europe

“New plant varieties are the most significant element of technological progress in modern agriculture. Increasing importance is consequently attached to their legal protection.”

These were the introductory words of the first ever general study published in the Union Internationale pour la Protection des Obtentions Végétales (UPOV) newsletter (August 1976). An international standard was established for the protection of plant varieties, with due consideration given to the rights of plant breeders with the formation of the UPOV. The UPOV was created in line with the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS) to provide either patents or bring into effect the “sui generis system” for the protection of plant varieties.

Various developed nations including the US adopted the UPOV obligations and introduced the Plant Patents Act of 1930 and the Plant Variety Protection Act of 1970, providing intellectual property rights to plant breeders. In the EU, by applying to the Community Plant Variety Office (CPVO), these rights are granted throughout the 28 member states of the union.

For a developing nation such as India, whose agricultural sector plays a pivotal role in its development, ratifying the UPOV was a challenge. In view of the overwhelming privileges and rights conferred on plant breeders by the UPOV convention, India enacted its own “sui generis” legislation in the form of the Protection of Plant Varieties and Farmer Rights (PPVFR) Act of 2001. The Indian government, in 2002, sought to join the mandate of the UPOV, but the move was criticised by groups favouring farmers and the preservation of traditional knowledge. Presently, India has not given a positive nod to the issue of compliance with the UPOV.

Interplay between the Patents Act and the PPVFR Act

Section 3(j) of the Patents Act of 1970 bars the patentability of plants as a whole or any part thereof and of the essential biological processes for the propagation of plants. The PPVFR Act, on the other hand, confers rights on plant varieties and their derivatives. Section 3(h) of the PPVFR Act defines “essential characteristics”

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genetic makeup as that of its parent plant. The germplasm thus remains intact in the subsequent plant varieties.

The traditional knowledge of selection and plant breeding is therefore protected by the PPVFR Act. The age-old techniques of breeding, harvesting and selecting the best variants needs to be acknowledged and protected under the PPVFR Act. But this known art of preserving germplasm and producing better varieties is what is explicitly barred under Section 3(j) of the Patents Act. Any genetic manipulation and application of recombinant technology that is novel and not obvious can therefore be patented under the scheme of the Patents Act.

The objectives of the PPVFR Act and Patents Act are different and so there is no contradiction between their provisions. A harmonious interpretation of the two acts makes the vision of the legislators very clear, in enacting the law relating to plants varieties.

Viewpoints of foreign courts

US

In the US, the inception of jurisprudence around the patentability of genetic material was not very developed before the case of *Diamond v Chakrabarty* (1980). The subject matter in contention was a bacterium *pseudomonas putida*, which was engineered by the inventor to break down crude oil and was proposed to be used in clearing oil spills.

The decision of the US Supreme Court came down in favour of the inventor as the engineered microorganism was no longer considered to be a natural organism after application of DNA technology and the same was rendered to be a patentable subject.

The US Supreme Court's decision in *J.E.M. AG Supply v Pioneer Hi-Bred International* (2001) confirmed that the existence of a specific IP right for plants through the Plant Protection Act and Plant Variety Protection Act does not prove the legislator's intent to deny broader utility patent protection for such plants. In that case, the court held that utility patents may be issued for plants. The court further stated that plant patents and plant variety protection are not the exclusive means of protecting new varieties of plants. This noteworthy case affirmed simultaneous protection for plant varieties under both patent and plant variety legislation.

Concurrent protection for a plant variety under both the regimes was further strengthened by the Board of Patent Appeals and Interferences in the *Ex parte Hibberd* decision, which held that the products of plant tissue culture and plants having an increased levels of an amino acid could be patented. It was affirmed that the two forms

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licence fee for those years, even though each crop contained the patented seed. McFarling defended his actions by contending that the conditions of the technology agreement "violated the doctrine of patent exhaustion and first sale".

The Court of Appeals for the Federal Circuit held that the doctrine of exhaustion was not implicated because the new seeds grown from the original batch of crops were never sold. Put another way, the seeds that MacFarling used each season were not sold to him by Monsanto, rather, they were copied from season to season in violation of Monsanto's patent rights.

Similarly, in the case of *Monsanto Co v Scruggs* (2006), a farmer, Scruggs, also raised the patent exhaustion defence. Scruggs had purchased Roundup Ready seeds from one of Monsanto's authorised seed companies and never executed the technology agreement. Scruggs planted the seeds, harvested them, and replanted the second-generation seeds containing the Round-up Ready trait. The Federal Circuit again held the doctrine of patent exhaustion did not apply because the second generation seeds were never sold, so the patent exhaustion doctrine was again not implicated. Perhaps anticipating the *Bowman* case, or a similar one, the Federal Circuit further held that applying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder.

In April 2008, the US District Court for the Northern District of Indiana in *Monsanto Co v Parr*, granted an injunction against a seed cleaning business for infringing Monsanto's patented Roundup Ready technology. Parr operated a mobile seed and grain cleaning business, scheduling appointments with farmers around the Lafayette, Indiana, area to clean their seeds. Parr's cleaning service was therefore a means for farmers to save seeds from one crop harvest and replant those seeds for future crops. The court granted Monsanto's request for an injunction against Parr.

The legal position in the US regarding protecting rights in technology and striking a balance between plant variety protection and patents, wherever required, is henceforth indisputable.

Canada

In *Monsanto Canada v Schmeiser* (2004), Monsanto sued a Canadian farmer for planting seeds that grew from Monsanto plants that had blown onto his land as seeds.

The farmer, Schmeiser, argued that he was cultivating his own traditionally bred canola strains, and he made an extremely limited use of chemical herbicides and he did not knowingly acquire transgenic Monsanto seeds.

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Europe

In Europe, notwithstanding the exclusion of plants and animals from patentable subject matter under Article 53(b) of European Patent Convention, patents for plant varieties are granted.

Moreover, anything beyond “an essentially biological” process can be patented under the European regime. Any process involving steps of crossing the genes of plants and subsequently selecting the varieties is not patentable.

There have been few instances where a product produced out of conventional breeding techniques was held to be patentable, as it was a technical invention. This includes

patents granted to Monsanto related to soybeans adapted to certain climatic zones obtained after a specific method of breeding. Similarly, there have been instances of granting patents for fungal-resistant tomato and lessening of discoloration in lettuce. The European law is clearly stringent on the technicality involved in the process and the product.

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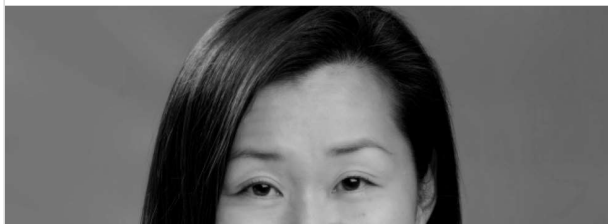
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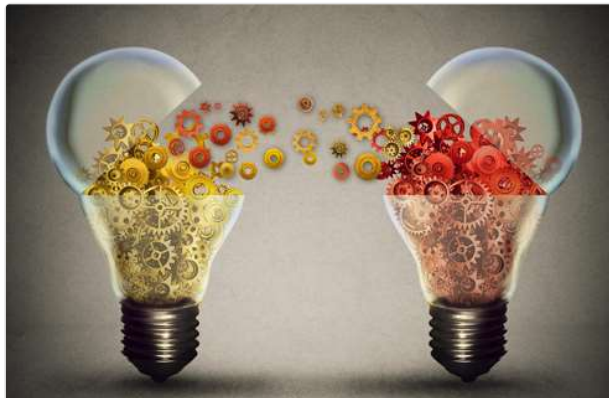
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