



## An Overview on Intellectual Property Rights Benefits to Seed Industry

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### ABSTRACT

The Indian seed industry is the 8<sup>th</sup> largest in the world with a market turnover of US \$920 million. The Government of India has targets for a growth rate of 4% per annum during the 11<sup>th</sup> plan period and to achieve this target, the seed industry as a whole has to play a crucial role. However, the seed industry is growing now at an impressive rate of about 12% per annum. With this growth, we have a potential to become the foremost player in seed business in the developing world with prospective markets in West Asia, South America and Africa.

**Keywords:** Geographical indications; Seed industry; Laboratories; Inventions; Creative expressions; Goodwill

### INTRODUCTION

Among all the inputs required for Agriculture, seed is the basic and critical input. Farmers (80%) and seed producers both private and public sector (20%) caters to the requirements for the timely sowing of various crops. Seed industry consists of the following areas of operation: Crop production including evolving improved crop varieties suitable for each Agro climatic region, bifurcation of good quality seed from the harvest by using machinery, preservation of quality standards by certification through accredited laboratories, storage, package, labeling and marketing through farmers awareness programmes, sales promotion campaigns *via* audio and visual mediums etc [1].

### LITERATURE REVIEW

#### Intellectual Property Right

Intellectual properties are the creations made by mind by intellectual effort, novel, non-obvious, intangible, worth protecting, inventions, creative expressions, goodwill and reputation, confidential information (Figure 1 and Table 1).

Various Forms of IPR

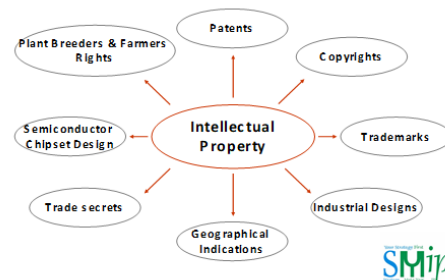


Figure 1: Various forms of IPR.

Table 1: A brief history of inventions of machinery.

Machinery	Patent act
Any Inventions of machinery or tools required and Seeds varieties of Inventions, Functionality.	Patents registered under the Patent Act, 1970 along with the Patent rule 1973 as amended.
Any new designs of laboratory apparatus and equipment and machinery and the tools, label containers etc inventions, and functionality.	Designs registered under the designs Act, 2000 along with the designs rules 2001.

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Any artistic work logo, labels and markings including abbreviations of words or phrase used for the packaging of the seeds and any commercial seed business activity Goodwill and Branding.

The original, creative expression of the scientific and technical knowledge such as the books, periodicals, scientific papers and articles of scientists and faculty, any artistic work, lyrics, sound, musical recordings and cinematographic video films used for dissemination of knowledge to the farming for community and public creativity.

New varieties developed by the plant breeders and the farmers including their rights innovation and rights.

Fruit, vegetable and other crop varieties of specific characteristics identifiable for the particular area/ region/ territory-territorial indicators.

Technical know-how, and technological of Proprietary information, chemical formulates and recipes, technical data and manuals and Business Proprietary information such as Customer Employee list methods of figuring bids, strategies and the methods, customer service techniques, confidential information.

Trade marks registered under the Trade Marks Act, 1999 with Trademarks Rules, 2002

Copyright registered under the copyright Act, 1957 along with copyright rules, 1958 and International copyright order, 1999.

Protection of plant varieties and farmers rights registered under the protection of plant varieties and the farmer's rights Act, 2001 along with rules, 2003.

Geographical indications registered under the geographical indications of goods.

Trade secrets are which can be protected by executing contracts and agreements of confidentiality and non-disclosure including the non-competition provisions with employees and outsiders having business relationships, identifying identifying the secrets with specificity and establishing a secrecy programme in the work place.

varieties of indigenous agro-biodiversity.

- Patents on seeds are a necessary aspect of the corporate deployment of GM seeds and crops. When combined with the ecological risks of genetically engineered seeds like Bt. cotton, seed patents create a context of total control over the seed sector and hence over our food and agricultural security.

- Looking with closer analysis, there are three ways that the 2<sup>nd</sup> Amendment and 3<sup>rd</sup> Amendment of the Indian patent laws have jeopardized our seed and food security and hence our national security.

- Firstly, it allows patents on seeds and plants through sections 3 (i) and 3 (j), as above. Patents are monopolies and exclusive rights which prevent farmers from saving seeds and seed companies from producing seeds. Patents on seeds transform seed saving into an "intellectual property crime".

- Secondly, genetic pollution is inevitable. MNCs will use the patents and pollution to claim ownership of crops on farmers' fields where the Bt. gene has reached through wind or other pollinators [3].

- When combined with the 3<sup>rd</sup> product patents amendment, these changes mean absolute monopoly.

### Case Laws on Patent Infringement

In the case of a Canadian farmer, Percy Schmeiser, whose canola field was contaminated by Monsanto's "Roundup Ready Canola," but instead of Monsanto paying Percy on the basis of the pollute principle, Monsanto demanded \$200,000 fine for "theft" of Monsanto's "intellectual property". Thousands of U.S. farmers also have been sued.

In the case of *Imagio Nursery vs. Daina Greenhouse*, Judge Spence Williams, for the U.S. District Court for the Northern District of California, ruled that a plant patent can be infringed by a plant that merely has similar characteristics to the patented plant [4].

### Designs and Seed Industry

Any new designs of laboratory apparatus and equipment's and machinery and tools, labels, containers etc. Used for packaging of seeds are registerable under the designs act provided they are original creations, novel, non-obvious and have industrial application and use.

The Patentable inventions can also be considered for registration as designs to protect them simultaneously under both the patent act as well as Designs Act.

### Trademarks and Seed Industry

Trade marks mean a word, symbol or device that is used to distinguish one's goods or services from the other and simply they are "Source Identifiers" which also include slogans, tag lines, colours, shapes of articles used for any purpose including packaging, sounds, smells, trade dress and configurations and also labels.

They should be

- Fanciful coined with no descriptive meaning to the public.

**For Example:** Mahyco seeds

- Arbitrary common words not associated with the goods or services like apple computers, kodak cameras etc.

### Patents and Seed Industry

Machineries, tools, apparatus, equipment's used in the Seed Industry are patentable provided they are original creations, novel, non-obvious and have industrial application and use [2].

Methods of agriculture and plants were excluded from patentability in the Indian Patent Act 1970 to ensure that the seed, the first link in the food chain, was held as a common property resource in the public domain. In this manner, it guaranteed farmers the inalienable right to save, exchange and improve upon the seed was not violated.

But recently, two amendments have been made in the Patent Act, 1970. The 2<sup>nd</sup> Amendment makes changes in the definition of what is not an invention. This has opened the flood gates for the patenting of genetically engineered seeds.

The introduction of 2004 seed bill needs to be assessed in the context of the simultaneous introduction of the 3<sup>rd</sup> Patent (amendment) Act. Our 1970 patent law has been changed under the coercive pressure of WTO in spite of the overdue mandatory TRIPS review. Patents will now be granted for seeds, plants, micro-organisms, cells and even GMO's and animals.

Quite clearly a monopolistic patent regime cannot be established as long as farmers have the alternative of their own zero cost, reliable, time tested high value seeds of their traditional

- Suggestive requires some imagination like coca-cola, copertone suntan oil, etc.
- Distinctive needs secondary meaning as acquired through extensive or exclusive use, advertising or promotion.

**For Example:** Best motors and pumps, suguna chicken, kumaran silks etc.

Non-generic common name for an article or service can never be a mark, like telephone, seeds, grains, pump etc. Thus any word, symbol or device, slogans, tag lines, colours, shapes of articles used for any purpose including packaging, sounds, smells, trade dress and configurations and artistic work logo, labels, markings including abbreviations of words or phrase used in any commercial business activity are registerable as trademarks. They give exclusive rights for the use of such marks only to the registered user [5]. There are different types of trademarks viz. certification marks, collective marks service marks etc.

In the case of trademarks, the symbol can be applied to any mark which is being used as a trade mark, however greater protection is provided if this mark is registered, in which case the symbol “®” can be applied to the mark. It is often illegal to apply the symbol to a trade mark which has not been registered (Figures 2 and 3).



**Figure 2:** Even 3D colored trademarks can be registered.

#### Case Study 3D Trade Mark for Label



**Figure 3:** Example of 3D trade mark for label.

### Examples of Trade Marks

Market choices is registered certification mark used under license from ASTA. Grain harvested from products that bear this mark is fully approved for food and feed use in the United States and Japan, but is not approved in the European Union. Victory Seeds, the victoryseeds.com registered domain name and the logo and the slogan “Preserving the future, one seed at a time, are the properties of the victory seed company.

Preserving the future, one seed at a time is a tag line registered as a Trade mark. Seeds containing the trade mark roundup Ready trait are protected under patent Nos. 5,352,605 and RE39, 247 in the US. It is illegal to save roundup ready or patented conventional soybeans for planting or transfer to others for use as planting seed. Trait Score SM is a service mark of Bo-Jac Seed Company. Agrisure, Apron XL, Cruiser, Cruiser Extreme, Maxim XL, Dynasty and the syngenta logo are registered trademarks of a Syngenta Group Company. Clearfield is a registered trademark of BASF agrochemical products B.V.

### Case Law on Transfer of Ownership of Disputed Trademark Invalid

A person, who is not a bona fide user of a registered but disputed trademark “openly and continuously” for a considerable period is not entitled for registration of the said trade mark, the intellectual property appellate board, Chennai, has ruled while disposing of an application filed by a Gujarat-based firm, new nandi seeds corporation, praying for setting aside an order dated April 27, 1998 of the registrar of Trade High Court, which was transferred to the appellate Board [7].

### Case Law on Trade Mark Dispute

**Austria:** “Styriagra” and “Viagra” Austrian newspaper Krone reports of a trade mark dispute between an Austrian pumpkin seed oil producer and pharmaceutical company Pfizer over the use of the mark “Styriagra” on pumpkin seeds.

According to the news report, Pfizer is not impressed and appears to have decided to take legal action against Mr Mandl claiming that he is infringing upon their Viagra trade mark. Mr Mandl now fears that the matter could lead to his bankruptcy.

Original creative expressions of ideas fixed in a tangible form such as software, paintings, books, periodicals, scientific papers and articles of scientists and faculty members, any artistic work, lyrics, sound, musical recordings and cinematographic films, performance and display which are used for advertising and marketing relating to the seed sector is registerable under the copyright act [8]. But the mere ideas, procedures, mere facts, methods are not protected under this act. The registration protects the rights of the author or creator an exclusive right over the creation and on anybody upon a written assignment or permission or license from the author. Training manuals almost certainly contain copyrights attached. The rights exist up to 60 years from such author’s life and so it is protected for a very long time. There may be fair use of the creations which cannot be taken as infringement if

- The use is not for any commercial or non-profit purpose.
- It is customary to use portions due to the nature of work.
- There is no substantial amount involved due to such copying.
- And there is no market effect ie. Not reducing the potential value.

Due to such registration, the following are the effects. It is notice to the public; considers fair use and permission issues; it cannot be stolen or reproduced without any authorization from the Author.

## Protection of Plant Varieties and Farmer's Rights

A new variety shall be registered for breeder's right if it conforms to the criteria of

- Novelty
- Distinctiveness
- Uniformity
- Stability

The variety should also have a denomination in accordance with the provisions of PPV and FR Act, 2001. As such, those plant varieties present in wilderness cannot be registered, under PPV and FR Authority. However, any traditionally cultivated plant variety which has undergone the process of domestication/improvement through human interventions can be registered and protected subjected to fulfillment of the eligible criteria.

The new variety should be distinct from the other varieties for at least one characteristic. Any variety which is already in the market, but not for more than a year, can be applied for registration as a new variety. Other older variety can be registered as extant variety. Farmers' Variety can also be registered as an extant variety.

### Farmer's Rights

A farmer can save, use, sow, exchange, share or sell his farm produce including seed of a variety protected under the PPV and FR Act, 2001 in the same manner as he was entitled before the coming into force of this Act provided the farmer shall not be entitled to sell branded seed of a variety protected under the PPV and FR Act, 2001.

Farmers' who conserve Genetic Resources of Land races and wild relatives of economic plants shall be rewarded from the Fund called the National Gene Fund by crediting thereto The benefit sharing received in the prescribed manner from the breeder of a variety or an essentially derived variety registered under this Act or propagating material of such variety or essentially derived variety, as the case may be.

- The annual fee payable to the authority by way of royalty under sub-section (1) of section 35.
- The compensation deposited in the Gene Fund under sub-section (4) of section 41.
- The contribution from any national and international organization and other sources.
- The Gene Fund shall, in the prescribed manner, be applied for meeting
- Any amount to be paid by way of benefit sharing under sub-section (5) of section 26; innocent infringement.
- The compensation payable under sub-section (3) of section 41.
- The expenditure for supporting the conservation and sustainable use of genetic resources including *in-situ* and *ex-situ* collections and for strengthening the capability of the Panchayat in carrying out such conservation and sustainable use.
- The expenditure of the scheme relating to benefit sharing framed under section 46.

There is also a provision for farmers to claim compensation from the breeder of a variety if it does not perform as expected under Section 39 (2) of this Act [9].

### Exempted from all Fees

The PPV and FR Authority prohibits farmers from branding, bagging and selling of registered seed which they might have multiplied in their farm without the approval of the rights holder. Farmers' rights are an ecological, economic, cultural and political imperative. Without community rights, agricultural communities cannot protect agricultural biodiversity. This biodiversity is necessary not just for the ecological insurance of agriculture. Rights to agricultural biodiversity are also an economic imperative because without it our farmers and our country will lose their freedom and options for survival. Since biodiversity and cultural diversity are intimately linked, conservation of agricultural biodiversity is a cultural imperative also. Finally, without farmers' rights, there is no political mechanism to limit monopolies in agriculture and inevitable consequence of displacement, hunger and famine that will follow total monopoly control over food production and consumption through the monopoly ownership over seed, the first link in the food chain. "So far climate has been considered as the most unpredictable variable affecting the agricultural sector [10]. But, the influence of global market forces, whose behavior is always not amenable to prediction and control, has become another factor affecting the progress and well-being of farmers" says Justice P.A. Chowdary.

### Case Law on Patent Protection and Farmers' Rights

Patent protection implies the exclusion of farmers' right over the resources having these genes and characteristics. This will undermine the very foundations of agriculture. For example, a patent has been granted in the U.S. to a biotechnology company, sun gene, for a sunflower variety with very high oleic acid content. The claim was for the characteristic (i.e., high oleic acid) and not just for the genes producing the characteristic. SunGene has notified others involved in sunflower breeding that the development of any variety high in oleic acid will be considered an infringement of its patent.

### Researcher's Rights

- Use of registered variety for conducting experiment.
- Use of variety as an initial source of variety for the purpose of creating other varieties.

### Duration of Protection

- For trees and vines-18 years.
- For other crops-15 years.
- For extant varieties-15 years from the date of notification of that variety by the Central Government under section 5 of the Seeds Act, 1966.

### Acts of Infringement

- If a person who is not a breeder of a variety registered under this act or a registered agent or a registered licensee of that variety, sells, exports, imports or produces such variety without the permission of its breeder or within the scope of a regis-



tered license or registered agency without their permission of the registered license or registered agent.

• If a person uses, sells, exports, imports or produces any other Variety giving such variety, the denomination identical with or deceptively similar to the denomination of a variety already registered under this act in such a way that it causes confusion in the mind of general people in identifying the registered variety.

## Penalty

If any person falsely represents a variety as a registered variety then he shall be punishable with imprisonment for a term not less than six months which can be extended up to three years or with a fine not less than one lakh which may be enhanced to five lakhs or both.

## Species that can be Protected

The Central Government has notified the following crops with their genera eligible for registration of varieties (Table 2).

**Table 2:** Different names of plants along with botanical names and hindi names.

S.No	Botanical name	Hindi name	Common name
1	<i>Oryza sativa L.</i>	Chawal	Rice
2	<i>Triticum estivum L.</i>	Gehun Bread	Wheat
3	<i>Zea mays L</i>	Makka	Maize
4	<i>Sorghum bicolor (L.)</i>	Moench Jowar	Sorghum
5	<i>Pennisetum glaucum (L.)</i>	R. Br. Bajra	Pearl millet
6	<i>Cicer arietinum L.</i>	Chana	Chickpea
7	<i>Cajanus cajan (L.)</i>	Millsp. Arhar	Pigeon pea
8	<i>Vigna radiata (L.)</i>	Wilczek Mung	Green gram
9	<i>Vigna mungo (L.)</i>	Hepper Urd	Black gram
10	<i>Lens culinaris.</i>	Medik Masur	Lentil
11	<i>Pisum sativum L</i>	Matar	Field pea
12	<i>Phaseolus vulgaris L</i>	Rajmah	Kidney bean

## Geographical Indications (GI) and Seed Industry

A GI is a word most commonly name of the place of origin, phrase, mark or sign or a combination of used on goods that have a special Geographical Origin and possess qualities or reputation that are due to that place of origin. "Goods" as per this act means "articles for sale, movables and anything which is the subject of trade or manufacture includes any agricultural, natural or manufactured goods or any good of handicraft or of industry and included foodstuff". For example, rice (basmati, nellore, pokkali etc.) wheat (punjab and madhya pradesh etc.) fruits (daseri, tottapalli, alphonso etc.) vegetables (bangalore brinjals, calicut ginger etc.) cotton and spices etc. are registerable under this act. Seeds of these agricultural products are also covered in this protection. The GI for agricultural goods like Basmati rice, coffee, tea, wine, etc. revolve around consumer preferences for the palate feeling, aroma and physical appearance that enhances the appetite. An ideal mixture of all these attributes raises the value of the product due to

reasons of consumer preference. A number of agricultural products such as darjeeling tea, haryana/punjab basmati rice, kerala navara rice, himachal pradesh kangra tea, coorg orange, nanjangud banana, mysore betel leaf, palakkadan matta rice, mysore jasmine, udupi jasmine, hadagali jasmine, alleppey green cardamom coorg green cardamom, kerala pokkali rice, monsooned malabar coffee, ethamozhi tall coconut, laxman bhog mango, khirsapati (himsagar) mango of west bengal and malda mango of west bengal, assam tea, nilgiri tea and many handicraft products such as kancheevaram silk, mysore silk, madurai sungudi, pochampalli ikat, chanderi fabric, salem fabric, solapur chaddar etc.) have been given the GI registration. There are penal sections similar to the other acts in this act also for the infringers of such GIs. It is often suggested that IPRs for varieties of agricultural products are registered both under the geographical indications act as well as under the PPV and FR act. Such a double coverage will enable intellectual property protection of the plant material and market advantage to the quality produce through GI.

## Trade Secrets and Seed Industry

Technical know-how and technological proprietary information, chemical formulates and recipes, technical data and manuals and business proprietary information such as customer-employee lists, methods of figuring bids, marketing strategies and methods, customer service techniques relating to public and private seed producers can be protected through execution of non-disclosure agreements, confidentiality agreements etc.

## CONCLUSION

The following are the benefits of intellectual property registration to the seed industry, which are derived by the farmers, producers, processors and packagers and marketers of agricultural goods:

- Freedom of action.
- Revenue generation.
- Entry into and competition within a new market.
- Entry into world market.
- Cost and resource effectiveness.
- Market suitability.
- Avoidance of anti-trust problems.
- Legal protection and actions against infringement and consequential adequate compensation.

All these IPRs except the geographical indications can be assigned or licensed by the concerned IPR holders to derive maximum benefits which will in turn benefit the whole society in particular and the nation in general in the long run.

## SUGGESTED READINGS

Austrian newspaper Die Krone. The abstracts of all bare Acts on IPRs as mentioned.

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