Intellectual Property Rights (IPR) on Seed

Type of IP Protection	Plant Patent	Plant Variety Protection (PVP)	Utility Patent	Trademark	Trade Secret	Contract	Open Source Seed Initiative (OSSI) Pledge
Is it legally binding?	Yes – Plant Patent Act, 1930	Yes – Plant Variety Protection Act, 1970	Yes – Patent Act, 1952 While patent law dates back to 1790, this law provides the basis of the most modern patent law applied	Yes – Registered trademarks are protected under both federal and state law	Yes – In the U.S., trade secrets are not protected by law, but they are considered a part of international law per TRIPS, or Trade-Related Aspects of Intellectual Property Rights	Yes – Contract law is the body of law governing agreements that can be upheld in court	No – A legally binding open-source license proved impractical, so OSSI created a pledge to communicate on packets an intent for these varieties to remain freely available
What and whom does it cover?	Plant patents govern asexually reproducing plants only. Plant patent apply to all users regardless of how they obtain the material.[1]	USDA's Plant Variety Protection Office provides PVP certificates to developers who prove that a new variety is new, unique, uniform, and stable. PVP apply to all users regardless of how they obtain the material.[1]	Utility patents are available through the U.S. Patent and Trademark Office for inventions that are novel, non-obvious, and useful. They have been awarded for finished varieties, plant parts, genetic traits, and more. Utility patents apply to all users regardless of how they obtain the material.[1]	A trademark is a brand name. For plant developers, it's possible to trademark a name associated with a variety.[2] The trademark means that no one else can use that name but makes no direct claims on the variety itself. It is usually, though not always, associated with one of the others forms of IP.	Sometimes referred to as "confidential business information," a trade secret is protected or exclusively held information, typically by industry.[3]	Contracts are used widely in the seed trade between seed developers, between farmers and developers, and more.[4] Contracts are binding between the signatories, but the materials are usually associated with one of the others forms of IP.	Any variety that isn't protected by another form of IP.[5]
How long does it last?	20 years, with opportunity for renewal	20 years, then enters public domain	20 years, with opportunity for renewal	10 years, with 10-year renewal terms (must prove ongoing use)	No end, as long as secrecy is maintained	No end, unless stipulated in the contract	No end
Is seed saving and/or plant cuttings allowed?	No exemption for propagation	Provides exemption for farmers to save seed for on-farm use only	Typically enforced to exclude seed saving and production without a license	Depends on the license with the trademark holder	Permission must be granted	Depends on the contract, but most licensing agreements used by the seed industry restrict seed saving, especially among their farming customers.	Yes
Is breeding and research allowed?	No exemption for breeding/research	Provides exemption for breeding and research purposes	Typically enforced to exclude breeding and research without a license	Yes, unless the trademark is combined with more restrictive IPR, like a patent.	Typically must have permission to market a trade secret	Depends on the contract. Those between universities (e.g., material transfer agreement) are typically used to support research, while those used by industry typically restrict research.	Yes, though if new varieties derived from OSSI varieties result in conditions placed on sales or use (e.g., royalties), this could technically be in conflict with the pledge since it serves as a restricted form of use.
Can I market this variety?	Must have permission from patent holder to propagate, often for a royalty and with restrictions	Provides exclusive marketing rights to the PVP certificate holder. Growers cannot sell saved seed	Typically enforced to exclude the sales of propagated seed without a license	Must have a license or permission to use trademark as a marketing right	Typically must have permission to market a trade secret	Depends on the contract/license	Yes
How much does it cost?	$4,000 – 8,000+ (when patent attorneys are involved)	$5,150 (fees are subject to change)	$5,000 – 10,000+ (when patent attorneys are involved)	$200 – 600 (monitoring and protecting a trademark's use is costly)	N/A	Typically a fee or royalty is paid for licensing or selling someone else's variety	$0

[1] For example, if a friend gives you a cutting of a plant patented apple, the legal requirements of the plant patent apply to you.

[2]For example, Kamut is a trademark name for a specific variety of Khorasan wheat. To differentiate Kamut products from other Khorasan wheat products, Kamut growers must use this particular variety, be certified organic, and the end product must also meet certain criteria, such as protein content. Khorasan wheat can still freely be grown by anyone, but to use the trademark Kamut, these and other stipulations apply as a way to control the quality of the product, and thus the brand.

[3]As an example in plants, trade secrets often govern inbred lines used to make an F1 hybrid. While there may be no additional protection on the actual F1 hybrid itself, the inbred lines and combinations of lines used to make an F1 hybrid are protected by companies as trade secrets. While you can save seed from an F1 hybrid, the progeny will not grow true to type, and it is also very unlikely that you would ever be able to re-create the inbred parent lines.

[4]Contracts include material transfer agreements that outline allowable practices for specific germplasm, and are often used between plant developers both in the public and private sector. Contracts also come in the form of licensing agreements on seed bags and packets, serving as a binding agreement between any user of that seed (farmers and researchers) and the proprietary owner. Simply opening a bag or packet of seed with a licensing agreement associated with it, known as "bag tags," binds you to the terms in the agreement. These terms often restrict seed saving and selling, and restrict use for research, including for breeding and variety trial purposes. This practice is not too different from opening or downloading software that includes a shrink-wrapped agreement. Contract law can serve as a highly restrictive form of IPR because, unless stipulated, contracts don't end. They are especially obstructive to farmer and breeders' rights when combined with additional layers of IPR, such as a utility patents. Fortunately, contracts can also be written in a way that adheres to the principles of fairness and shared benefit, supporting one's freedom to operate by not restricting seed saving or research of any kind, including breeding. Contracts often stipulate that a royalty be returned back to the breeding program and/or farmer collaborators.

[5]The OSSI pledge states: "You have the freedom to use these Open Source Seed Initiative - Pledged seeds in any way you choose. In return, you pledge not to restrict others' use of these seeds or their derivatives by patents or other means, and to include this Pledge with any transfer of these seeds or their derivatives."

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