Reselling Off-Patent Seeds

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Overview

In recent years, the original *Roundup Ready* soybean seeds developed by Monsanto (now part of Bayer) have come off patent, marking a significant shift in the agricultural landscape. The patent for the first-generation Roundup Ready trait (known as RR1), which provides resistance to glyphosate herbicide (commonly sold as Roundup), expired in the United States in 2015. This change has since opened new doors for farmers and seed developers. But what are the legal rules that apply to the use of RR1 seeds? How can they be used? Can a farmer resell them to other farmers? What about the formation of a "buying pool" that would allow other farmers to buy the seeds at a below market price?

The legal rules governing the sale and usage of off-patent agricultural seeds – it's the topic of today's post.

Background

Roundup Ready seeds produce crops that are genetically engineered to withstand applications of glyphosate (a broad-spectrum herbicide that is the active ingredient in Roundup). Monsanto developed the seeds for various reasons, but one result of development is that it allowed farmers to spray the herbicide over entire fields to kill weeds without damaging the crop. Monsanto received its first general utility patent on Roundup Ready seeds in 1996 and commercially released the seeds later that year. The actual U.S. patent related to the Roundup Ready trait (specifically, the glyphosate-resistant EPSPS gene) was filed on February 2, 1993, but the key patent often cited is U.S. Patent No. 5,633,435 – titled *"Glyphosate-tolerant 5-enolpyruvylshikimate-3-phosphate synthases."* This patent was issued on May 27, 1997, and expired on February 2, 2013.

After the expiration date, the original Roundup Ready technology (RR1) became off-patent, meaning farmers and seed companies could legally use and breed with the glyphosate-tolerant trait without paying royalties to Monsanto. That gave farmers more freedom to save and replant RR1 seeds — a practice that was previously restricted by licensing agreements.

Off-Patent Seeds and Farmers

RR1 seeds coming off patent have several implications for farmers. One is lower cost. Generic RR1 seeds are typically cheaper since they are no longer bound by licensing fees. This can help reduce

input costs for growers. In addition, farmers can now legally save and replant RR1 seeds, which may be especially valuable for smaller or independent operations seeking to cut expenses. The end of the patent has encouraged smaller seed companies to enter the market, offering more variety and competition. But, RR1 is a first-generation trait, and newer versions (like Roundup Ready 2 Yield and Roundup Ready Xtend) offer better yields and expanded weed control. Many large farms continue to use these upgraded, still-patented versions despite the availability of generic RR1.

The bottom line is that the expiration of the Roundup Ready patent represents a rare opportunity in modern agriculture - access to a widely used biotech trait without the high costs of intellectual property. While RR1 may not match the performance of newer seed technologies, its availability gives farmers more flexibility and power in choosing how they grow their crops.

But it's not unlimited flexibility. And there's the rub.

Remaining Intellectual Property Restrictions

Contractual restrictions. Even with the original patent on RR1 seeds having expired, that doesn't mean a farmer can freely resell or distribute seed. That's because the traits may still be covered under other intellectual property protections, such as utility patents on other genetic traits (stacked traits); contractual restrictions on the seed; and trademarks and brand licensing agreements. In general, to legally sell seed in the U.S., the seller must be registered as a seed dealer in most states. In addition, the seed being sold must be labeled with origin, purity, germination percentage, weed seed percentage, etc. The seed must also be tested for germination (usually within the past 6-9 months), and be stored properly (clean, dry, pest-free conditions).

Most off-patent seeds are sold under a license agreement, which typically prohibits saving the seed, reselling it or distributing it without authorization. These agreements are usually enforceable under contract law, regardless of patent status. Thus, even if off-patent seed is purchased legally, reselling it can violate a license that was agreed upon purchase, even if the seed is cheaper and off-patent.

Note: Off-patent seed that is resold must meet all federal and state seed laws and the seed must meet labeling, purity, and germination standards. Also, it is possible that the reseller be a licensed seed dealer in the state. Selling uncertified or misrepresented seeds can result in fines, civil lawsuits and, in some situations, criminal penalties.

Plant Variety Protection Act. The Plant Variety Protection Act of 1970 (PVPA) *(7 U.S.C. §2321, et seq.)* was first enacted in 1970 and was substantially modified in 1994. The PVPA grants "copyright-like" protection to developers of novel varieties of sexually reproducible plants. The PVPA is, in many respects, parallel to the PPA for protection of plant varieties that are sexually reproduced. The PVPA, among other things, authorizes the Secretary of Agriculture to issue a certificate of plant variety protection (certificate of protection) to the breeder of any novel variety of sexually produced plants. The plant variety certificate protection extends to both the plant and its seeds. By contrast, the plant variety patent extends only to the plant. Thus, the grant provides the plant patentee with "the

right to exclude others from asexually reproducing the plant or selling or using the plant reproduced." *35 U.S.C. §163*.

It is unlawful to sell or grow a protected plant variety without permission of the holder of the plant variety protection certificate. As originally enacted, protection under the PVPA extended for 18 years. The major disadvantage of the original PVPA to plant breeders was the so-called "saved seed" or "farmer exemption" that permitted farmers to sell the protected variety to other farmers who would use it as seed, thereby eliminating their need to buy the protected variety directly from the seed company or authorized seed producer/seller. As originally enacted, the PVPA statutory exemption for saved seed contained no limits on the amount of seed that could be sold under the exception. The exception is of no consequence for corn because any seed saved from the first generation of production after the cross breeding to produce a commercial variety lacks the performance of the original seed. However, the exception is of great importance for soybeans and other crops where saved seed performs almost as well as the parent seed. In 1983, the Fifth Circuit Court of Appeals limited the use of the exemption in the original PVPA by holding that farmers may sell saved seed directly to other farmers, but not through intermediaries such as farm cooperatives and grain elevators. *Delta & Pine Land Co. v. Peoples Gin Co., 694 F.2d 1012 (5th Cir. 1983).*

In 1994, the Congress amended the PVPA (effective April 6, 1995) and repealed the provision allowing a farmer to sell "saved seed" to other persons for reproductive purposes without authorization from the PVPA certificate holder. *PVPAA, 108 Stat. 3142 (1994), amending 7 U.S.C. § 2543.* However, the amendment does not diminish the right of a farmer to save grain produced from the purchased seed for replanting, to save all or part of the purchased seed as seed for planting the following season on owned and rented acreage or to sell the grain produced from the purchased seed for other than reproductive purposes (e.g., into the grain trade). *In short, this change in the PVPA means that farmers can no longer sell or buy "brown bagged" seed, which is the common term for seed sold from a PVPA-protected variety without authorization from the holder of the PVPA certificate.* The 1994 amendments also extended the protection period from 18 to 20 years and provided for infringement actions against makers of "essentially derived" varieties. The "essentially derived" language is designed to prevent breeders from copying protected varieties by incorporating them into their own lines with only slight cosmetic changes. No court has interpreted the meaning of "essentially derived."

Note: The argument that the seed is only for establishing a cover crop that will be killed in the spring is not a defense to a PVPA alleged violation. Under the PVPA propagation is not allowed.

What About a Buying Pool?

How does it operate? A buying pool (also called a purchasing cooperative or group buying pool) is a group of individuals or organizations that join together to buy goods or services in bulk to get better prices, terms, or access than they could on their own. The group determines what products or services they all need (e.g., seeds, fertilizer, animal feed), and the members submit their individual order quantities to the group coordinator or organizer. These are then aggregated into one large bulk order. With the larger order volume, the group negotiates better pricing, terms, or shipping deals from

suppliers. Suppliers are often more willing to give bulk discounts or priority service to a buying pool. Costs are split based on what each member ordered, and there may be administrative fees, or members may volunteer to handle logistics.

Buying pool for seeds. More specifically, a buying pool to buy off-patent seeds would be formed by a group of farmers or seed dealers. They would then collaborate to purchase bulk quantities of off-patent RR1 seed or germplasm. The goal is to reduce cost per unit, access better-quality stock, or improve distribution efficiency. The pool would need to source certified seed or germplasm derived from RR1 that is no longer under patent protection. This may involve buying from public breeders (e.g., universities or USDA programs), sourcing from seed companies that now sell generic glyphosate-tolerant varieties, and/or working with private breeders releasing off-patent RR1 traits. After purchasing, members of the pool may either use the seed themselves or resell seed to other farmers.

However, a key point is that the buying pool must ensure that seeds were not originally purchased under a restrictive license. For instance, there may still be licensing restrictions from contracts that were attached to the original seed sale (such as Monsanto's Technology Use Agreement). As noted above, the buying pool would also need to ensure that any saved or resold seed complies with state and federal seed laws (e.g., germination standards, labeling, and certification). Similarly, if seeds were bought under a "no-save" or "no-resale" agreement, even expired patents don't override those private contracts.

Antitrust and market manipulation concerns. If a buying pool undercuts prices dramatically in a coordinated pool, large seed companies may see this as unfair competition or IP infringement, especially if the pool is using the company's proprietary genetics or if the pool is misrepresenting the seed (e.g., selling under an unauthorized brand name). In addition, a large, well-heeled firm may file suit, even if it's just to shut down the buying pool.

Caution: The bottom line is that even if the pool buys off-patent Roundup Ready seed and resells it, the pool is likely to be violating contract law (via license agreements), seed laws (such as labeling, certification and dealer laws), and possibly intellectual property (IP) law if other traits are still protected.

Alternative Approaches

Public domain seed. One option for farmers that are interested in a cheaper or open-source seed model is to look into public domain or open-source seed. There are thousands of varieties in the public domain that are bred by public universities or open-source seed initiatives. These seeds can be legally grown, saved and resold (assuming basic seed laws concerning labeling and germination testing, etc., are complied with).

Note: Some smaller or regional seed companies offer non-GMO, open-pollinated, or hybrid seed and allow dealers to buy wholesale and resell.

Also, grain can be bought for resale as food, feed, or input but not as seed unless it's certified.

Identity-preserved grain. Another approach is for a pool to be formed to sell identity-preserved grain (e.g. non-GMO, heirloom, or local heritage corn). The pool would partner with buyers who want traceable, regenerative, or region-specific grain.

Grain buying pool. Perhaps another option is to form a grain buying pool or CSA-style grain network and avoid all seed-related legal complexity. A CSA (Community Supported Agriculture) is a food production system that connects individuals and local farms in a mutually supportive relationship**.** By paying a subscription fee, customers become supporters of a farm and receive shares of the seasonal harvest.

Breeding. For those with time and space, another option is to select an open-pollinated line over a few years and breed for traits such as early maturity, cold tolerance, or drought resistance. Once the line is developed, the seed could be sold as a new, locally adapted variety. Of course, a PVPA certificate would need to be obtained, or the seed could be shared under OSSI.

Cooperative. Yet another option is for a group of farmers to form a seed co-op that legally licenses genetics, handles germination testing, cleaning, and packaging, and complies with state and federal seed law.

Conclusion

Off-patent RR1 seed cannot legally be resold unless very specific conditions are met. A buying pool is also subject to satisfying the same requirements under the law.