

## Federal Circuits Cooks Bean Patent While Another Patent Dispute Simmers

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*The New York Times*, *The Wall Street Journal*, National Public Radio, the BBC, and other media outlets transformed the Enola bean patent into a cause célèbre. Vilified as a textbook case of biopiracy, the patent met defeat at the hands of the United States Court of Appeals for the Federal Circuit.

The controversy has its roots in Larry Proctor's 1991 visit to Mexico. Proctor bought a package of dry beans containing a mixture of varieties, including yellow beans. Later that year, Proctor selected yellow field beans from the package, planted them in Montrose County, Colorado, and allowed the plants to self-pollinate. He selected plants exhibiting certain desired characteristics and harvested them. Proctor continued to plant harvested seeds and allowed the plants to self-pollinate, and eventually, grew plants with uniform leaf size, good adherence of the pod to the branches, high yield, and resistance to pod shattering. He harvested the plants to generate a field bean (*Phaseolus vulgaris*) cultivar, Enola, which produces seed having a distinct yellow color.

In November 1996, Proctor filed a patent application, which he assigned to his company Pod-ners, LLC. The patent issued in April 1999 as US Patent No. 5,894,079 with 15 claims, covering the Enola bean, defined as a bean with a yellow coat described within a narrow range of shades of yellow on a particular color chart, or as a bean designated Enola deposited in the American Type Culture Collection. Other claims covered plants produced from Enola seed and methods for producing the plant.

Soon, Pod-ners sued Tutuli Produce, an Arizona company that imports from Mexico a yellow bean named Mayocoba. Mexican government officials condemned the Enola bean patent as Mexican bean biopiracy. In 2000, the Colombia-based International Center for Tropical Agriculture requested an ex parte reexamination at the US Patent and Trademark Office. While a patent examiner reconsidered the validity of the patent claims, Pod-ners sued 16 Colorado small bean seed companies and farmers for patent infringement. In 2005, a patent examiner declared the Enola patent claims invalid. Pod-ners filed an appeal.

While the appeal slowly drifted to the appellate board, the US Supreme Court decided a case that would make it more difficult for inventors to obtain a patent. US patent law prohibits the granting of patent claims to an invention that could have been readily deduced from publicly available information—prior art—at the time the invention was made, by a person knowledgeable about the relevant technological field. That is, an invention must have been nonobvious. When the prior art reveals elements, or parts, of an invention, a judge must decide if it would have been obvious to combine the elements to create the invention. Traditionally, courts might use the “teaching, suggestion, or motivation” test to determine if prior art that taught elements of a claimed invention rendered the invention obvious. According to the test, a patent claim is only proved obvious if the prior art, the nature of the problem solved by the invention, or the knowledge of a person having ordinary skill in the art revealed some motivation or suggestion to combine prior art teachings. In *KSR Int'l v. Teleflex Inc.*, the Supreme Court decided that prior art need not contain an explicit motivation or suggestion to combine elements of an invention. The motivation or suggestion may be found in the demands of the relevant technical field or in the marketplace.

In April 2008, the US Patent Office's Board of Appeals issued a 49-page opinion about the Enola bean case. Throwing the statute book at the '079 patent, the Board held that its claims were invalid for a lack of written description, lack of enablement, indistinct claim language, and as anticipated or made obvious by the prior art. Pod-ners filed another appeal, this time to the Court of Appeals for the Federal Circuit.

The Federal Circuit issued its decision in July 2009. The court agreed with the Board that the Enola patent claims are invalid due to obviousness. The Board had decided that Enola beans represent an obvious variation of a well-known yellow bean called Azufrado Peruano 87. Drawing upon *KSR* for support, the Federal Circuit expanded the rationale for rejecting the Enola patent claims. “One of ordinary skill in the art seeking to reproduce (and hopefully improve) the yellow beans that Proctor brought back from Mexico would have done what he did: plant the beans, harvest the resulting plants for their seeds, planting the latter seeds, and repeat the process two more times,” the Federal Circuit said. The court found no evidence that Proctor had tried to generate beans with the particular narrow range of yellow specified in the patent claims. “[I]t appears that all Proctor was attempting to do,” the court said, “was to reproduce the yellow beans he had acquired in Mexico, and hopefully to improve them. To do so he followed normal and well-established agricultural methods and techniques for doing that.” The court said that Proctor did not contend that he had devised or had applied

new or unexpected techniques to produce the beans.

After losing the appeal at the Federal Circuit, Proctor could appeal to the US Supreme Court. But he would probably find that a very tough row to hoe.

### **Once more unto the breach**

On May 4, 2009, Monsanto Company filed a lawsuit in a St. Louis federal court against E.I. du Pont de Nemours and Company and Pioneer Hi-Bred International, Inc. for patent infringement, breach of contract, and other claims. Monsanto alleged that Pioneer and DuPont breached a license by combining, or stacking, Pioneer's Optimum® GAT® trait in soybeans that contain Monsanto's Roundup Ready® trait.

Years ago, Monsanto engineered the CP4 gene into soybeans to produce the "40-3-2 Soybean Event." Monsanto commercialized the event as its first generation of Roundup Ready® soybeans that have a tolerance to glyphosate herbicides. The CP4 gene and its use in soybean plants are covered by U.S. Patent No. 5,633,435, which issued on May 27, 1997, and reissued in 2006 as US Patent No. RE 39,247. Soon after developing Roundup Ready® soybeans, Monsanto developed a similar technology for corn; the '247 patent also covers the use of the CP4 gene in corn plants. The company licenses its Roundup Ready® soybean and corn technology to seed companies. In April 2002, Monsanto granted Pioneer a limited, non-exclusive, royalty bearing license to Monsanto's Roundup Ready® soybean technology and corn technology.

In 2006, DuPont and Pioneer announced that they had developed their own glyphosate-tolerant trait, called Optimum® GAT®, which includes tolerance to acetolactate synthase herbicides. Rather than pursuing their own stand-alone glyphosate-tolerant technology, Pioneer and DuPont announced that they are stacking the Optimum® GAT® gene with Monsanto's Roundup Ready® soybean technology. In its complaint, Monsanto indicates that the defendants also may have stacked their Optimum® GAT® gene in Roundup Ready® glyphosate-tolerant corn. By stacking the traits, Monsanto alleges, the defendants materially breached the Soybean License Agreement and the Corn License Agreement, and infringed Monsanto's patent rights. "Combining [Roundup Ready®] with other forms of glyphosate tolerance," Monsanto declared on its website, "creates unnecessary variables, including stewardship concerns and regulatory questions."

DuPont explained that the company had decided to incorporate Monsanto's Roundup Ready® gene with its own glyphosate-tolerant technology, because the combination increases crop yields. The prohibition in the 2002 license against stacking is invalid, DuPont asserted. The company's view is that the US Justice Department neutralized the license's stacking clause when it ordered Monsanto to abandon similar restrictions on cottonseed breeders in 2008 before approving Monsanto's acquisition of cotton seed company Delta & Pine Land.

In June, DuPont filed its answer to Monsanto's complaint, denying the allegations. The company went on the offensive, characterizing the lawsuit as "a new anticompetitive campaign by Monsanto designed to maintain and extend its unlawful monopolies into developing markets involving combinations ('stacks') of input and output traits." The company asserted that Monsanto had attempted to monopolize markets in violation of the Sherman Act. DuPont also alleged that Monsanto had obtained its Roundup Ready® patents by fraudulent and inequitable conduct during patent prosecution.

Monsanto called DuPont's response to the lawsuit a smokescreen for what the company labeled DuPont's failed Optimum® GAT® product. "After years of touting Optimum® GAT® as a stand-alone, effective competitor of Roundup Ready®," Monsanto officials said in a press release, "DuPont admitted in January 2009 that farmers could not use Optimum® GAT® alone because it presented an 'unacceptable risk' to growers, and needed Monsanto's Roundup Ready® to make it work." Two months later, a Monsanto press release revealed the contents of a letter that the company sent to DuPont's chairman in which Monsanto requested an investigation into a continuing campaign of misinformation against Monsanto. The company posted a copy of the letter and related documents on a Monsanto website. A DuPont spokesman said that the company will respond to Monsanto's letter "in an appropriate manner."

On January 15, 2010, Monsanto scored a victory with a decision by US District Judge E. Richard Webber. First, the judge concluded that the license does not restrict Pioneer from stacking Optimum® GAT® gene with Monsanto's Roundup Ready® soybean technology. A stacked seed product is a Licensed Commercial Seed under the agreement. However, the license grants Pioneer the right to produce and sell Licensed Commercial Seed "which exhibit genetically-engineered protection against glyphosate herbicide solely due to the presence of the Glyphosate-Tolerant Soybean Event: 40-3-2." The judge decided that this clause is a field of use restriction that allows Pioneer to use the 40-3-2 trait only in seed products containing no other glyphosate-tolerant traits.

Monsanto may assert claims for breach of contract as a result of Pioneer's stacking its Optimum® GAT® gene with the licensed traits. Meanwhile, DuPont pursues antitrust claims against Monsanto, an issue that may be complicated by the Justice Department's recent demand for information about Monsanto's business practices concerning Roundup Ready®



soybeans. While the DuPont-Monsanto battle percolates through the legal process, farmers may wonder what the outcome will hold for them. As an ancient African proverb observes, “When two elephants fight, it is the grass that suffers.”

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