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Patenting Life: How the Supreme Court Monopolized Plant Protection

Jarrick Goldhamer

This article explores plant specific legislation dating back to 1930 and argues that, contrary to the Supreme Court’s holding in J.E.M. Ag Supply, Inc. v. Pioneer Hi–Bred Int'l, Inc.,\(^1\) existing plant protections should have precluded offering utility patents to plants. On May 13, 2013, in its decision in \textit{Bowman v. Monsanto Co.}, the Supreme Court continued to expand the judicially created right to protect plants under utility patents.\(^2\) The Court acknowledged the conflict created between plant specific legislation and the patent act,\(^3\) but discarded any issues arising as being previously decided in \textit{J.E.M. v. Pioneer} in 2001.\(^4\) However, the \textit{J.E.M. v. Pioneer} decision was premised upon the idea that the Patent Act and the plant specific legislation “established different, but not conflicting schemes.”\(^5\) Legislative history regarding plant protections, particularly commodity plants capable of self-replication, reveals continued efforts by Congress to place limits on plant protection and deny full patent protection.\(^6\) Contradicting protections offered by utility patents,\(^7\) plant patents,\(^8\) and plant variety protection certificates\(^9\) demand a reexamination of the \textit{J.E.M. v. Pioneer} decision.\(^10\) This paper will examine why the

\(^2\) Bowman v. Monsanto Co., 133 S. Ct. 1761, 1763 (2013) (holding that patent exhaustion is not a defense against reproduction of “patented seeds through planting and harvesting without the patent holder's permission”).
\(^3\) \textit{Id.} at 1767 (The Plant Variety Protection Act, but not the Patent Act, provides exceptions for saving seed.).
\(^4\) \textit{Id.} at 1768 (citing \textit{J.E.M. v. Pioneer} 534 U.S. 124 (creating a right to save patent protected seed as included in the Plant Variety Protection Act “would turn upside-down the statutory scheme \textit{J.E.M.} described”)).
\(^5\) \textit{Id.} at 1767.
\(^6\) See 7 U.S.C.A. § 2543 (West 2013) (allowing persons to save seed and "use such saved seed in the production of a crop for use on the farm of the person"); also See 35 U.S.C.A. § 161 (West 2013) (requiring asexual reproduction and disallowing protection to tuber-propagated plants).
\(^10\) \textit{Bowman v. Monsanto Co.}, 133 S. Ct. at 1767-1768 (“If a sale cut off the right to control a patented seed's progeny, then (contrary to J.E.M.) the patentee could not prevent the buyer from saving harvested seed.”).
comprehensive and carefully tailored protections offered by the Plant Patent Act and the Plant Variety Protection Act are irreconcilable with the protections offered by utility patents.

Part I of this paper will discuss the legislative history of plant specific legislation. Part II will examine judicial decisions impacting plant protection legislation. Part III will discuss the Supreme Court’s decision in J.E.M. v. Pioneer and present counter evidence to the Court’s positions. Part IV will conclude that Congress should amend the plant protection schemes to indicate that they are the exclusive venues for sure protection.

I. Congressional Grants of Protection to Plants

Prior to the Plant Patent Act (“PPA”) of 1930,11 patent law was “understood to cover only inventions or discoveries in the field of inanimate nature.”12 When Congress first broadened patent law to include plants,13 it placed calculated limits on the ability to protect plants and their progeny.14 The PPA amended the utility patent provision defining patentable subject matter, Rev. Stat. § 4886:

Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvements thereof, or who has invented or discovered and asexually reproduced any distinct and new variety of plant, other than a tuber-propagated plant, not known or used by others in this country, before his invention or discovery thereof, ... may ... obtain a patent therefor.15

Emphasized above, the PPA added plants as a new category of patentable subject matter16 in addition to the four non-exclusive categories that previously existed.17 The PPA also “amended Revised Statutes § 4888 by adding: ‘No plant patent shall be declared invalid on the ground of

12 Hearings on H.R. 11372 before the House Committee on Patents, 71st Cong., 2d Sess. Appendix A (1930).
14 Id. (requiring asexual reproduction of a plant to qualify for patent protection).
15 Id. (emphasis added).
16 Id.
17 Id. (“art, machine, manufacture, or composition of matter”).
noncompliance with this section if the description is made as complete as is reasonably possible.”

This amendment ensured that plants would be capable of meeting the rigorous description requirements to obtain patent protection. When the PPA was enacted, it was the exclusive avenue of protection for plants.

In 1952, Congress recodified patent law into the organizational structure it is known for today. Part of that reorganization separated the PPA requirements of patentability into the newly created chapter 15 of title 35 of the United States Code §§ 161-164. Although PPA requirements were removed from the code section defining patentable subject matter, the Supreme Court interpreted the 1952 revision to be “only a housekeeping measure that did not change the substantive rights or the relaxed requirements for such patents.” The statutory requirements for obtaining a plant patent now read:

Whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state, may obtain a patent therefor, subject to the conditions and requirements of this title.

If an applicant’s plant qualifies under this provision, the PPA grants rights, distinct from general patent rights, tailored to plants:

In the case of a plant patent, the grant shall include the right to exclude others from asexually reproducing the plant, and from using, offering for sale, or selling the plant so reproduced, or any of its parts, throughout the United States, or from importing the plant so reproduced, or any parts thereof, into the United States.

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19 Id. at 134 (quoting Diamond v. Chakrabarty, 447 U.S. 303, 311-312 (1980)) (“second obstacle to patent protection for plants was the fact that plants were thought not amenable to the ‘written description’ requirement”).
Although separated from the utility patent requirements, these alterations were not intended to alter or expand the scope of patentable subject matter.

Following the PPA’s limited grant of patent protection to plants, Congress was pressed to expand protections to sexually reproduced plants. In 1967, the “American Seed Trade Association proposed an amendment to the 1930 PPA by adding ‘or sexually’ to all relevant sections, expanding the Act's coverage to useful, ‘sexually’ reproducing varieties.” However, Congress rejected the attempt to expand patent protection to sexually reproduced plants. In 1970, Congress accepted that “true-to-type reproduction was possible” through sexual reproduction of plants and passed the Plant Variety Protection Act (PVPA). The PVPA extended patent-like protections to:

The breeder of any sexually reproduced or tuber propagated plant variety (other than fungi or bacteria) who has so reproduced the variety, or the successor in interest of the breeder, shall be entitled to plant variety protection for the variety, subject to the conditions and requirements of this chapter.

Subject to limitations, the PVPA provides infringement an infringement exemption such that a person may save protected seed and “use such saved seed in the production of a crop for use on the farm of the person.” The PVPA also includes exemptions from infringement for

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28 J.E.M. v. Pioneer, 534 U.S. at 125 (stating that the 1952 revision “did not change the substantive rights”).
30 Id.
31 Id. (stating that the U.S. Department of Agriculture, Land Grant College “agronomists, farmers and public plant breeders at SAESs opposed this move and effectively killed the proposed amendment.”)
32 Diamond v. Chakrabarty, 447 U.S. at 313.
35 Asgrow Seed Co. v. Winterboer, 513 U.S. 179, 188 (1995) (interpreting narrowly the exemption to protect replanting or selling the seed saved for replanting on the farmer’s own fields).
36 7 U.S.C.A. § 2543.
research conducted on protected varieties and for private noncommercial uses. With the PPA and the PVPA, Congress created comprehensive bodies of law covering both the asexual and sexual reproduction of plants.

II. Judicial Expansion of Patent Protections to Plants

In 1980, the US Supreme Court dramatically overruled the longstanding perception that living organisms were not patentable subject matter. The Supreme Court rejected nearly two hundred years of patent history which stated that, without a specific statute like the Plant Patent Act, animate objects were products of nature and therefore outside the realm of patent protection. In *Diamond v. Chakrabarty*, the court held that human made micro-organisms could fall within § 101 patentable subject matter. The Court relied on an extremely expansive reading of the non-exclusive categories in § 101 to conclude that the micro-organism at issue constituted a “manufacture” or “composition of matter.” The Court relied on legislative history that the Court claimed to state “that Congress intended statutory subject matter to ‘include anything under the sun that is made by man.’” Due to decisions of the lower courts, the Court framed the question presented as not pertaining to the difference between the animate and inanimate, but

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37 7 U.S.C.A. § 2544 (West 2013) (“The use and reproduction of a protected variety for plant breeding or other bona fide research shall not constitute an infringement of the protection provided under this chapter.”)
38 7 U.S.C.A. § 2541(e) (West 2013) (“It shall not be an infringement of the rights of the owner of a variety to perform any act done privately and for noncommercial purposes.”).
39 *Diamond v. Chakrabarty*, 447 U.S. at 310 (holding that the petitioner’s “new bacterium with markedly different characteristics from any found in nature” was patentable).
41 *Diamond v. Chakrabarty*, 447 U.S. at 310.
42 Id. at 309
43 Id. (citation omitted).
44 Id. at 306 (footnote omitted) (*quoting* Application of Bergy, 563 F.2d 1031, 1038 (C.C.P.A. 1977) *cert. granted, judgment vacated sub nom.* Parker v. Bergy, 438 U.S. 902 (“the fact that microorganisms . . . are alive . . . [is] without legal significance’ for purposes of the patent law”).
whether the micro-organism at issue was a product of human inventiveness.\textsuperscript{45} Importantly, the decision cited previous case law holding that “bacteria were not plants for the purposes of the 1930 Act,”\textsuperscript{46} therefore, it did not decide what protections were available to plants and other living organisms.\textsuperscript{47}

Five years later, the Board of Patent Appeals and Interferences (BPAI)\textsuperscript{48} held that plants were not precluded from obtaining utility patent protection.\textsuperscript{49} The BPAI, relying heavily on Diamond v. Chakrabarty, opened the door for patenting most any human made living organism. The findings of Ex Parte Hibberd\textsuperscript{50} were thereafter promulgated by the United States Patent and Trademark Office (PTO)\textsuperscript{51} in 1987 stating that “the PTO considers non-naturally occurring, non-human multicellular organisms, including animals, to be patentable subject matter within the

\begin{footnotesize}
\begin{enumerate}
\item \textit{Id.} at 313 (“relevant distinction was not between living and inanimate things, but between products of nature, whether living or not, and human-made inventions”).
\item \textit{Id.} at 314 (citing \textit{In re Arzberger}, 112 F.2d 834 (1940)); \textit{See also} 1985 Pat. App. LEXIS 11, 18, (Bd. Pat. App. & Interferences Sept. 18, 1985):
\begin{quote}
The Court of Customs and Patent Appeals … interpreted the meaning and scope of the term "plant" in the PPA as having its common, ordinary meaning which is limited to those things having roots, stems, leaves and flowers or fruits. In our view, tissue cultures manifestly do not come within the noted "common, ordinary meaning" of the term "plants" and are, therefore, not within the scope of the PPA (35 USC 161).
\end{quote}
\item \textit{Id.} at 317:
\begin{quote}
The choice we are urged to make is a matter of high policy for resolution within the legislative process after the kind of investigation, examination, and study that legislative bodies can provide and courts cannot. That process involves the balancing of competing values and interests, which in our democratic system is the business of elected representatives. Whatever their validity, the contentions now pressed on us should be addressed to the political branches of the Government, the Congress and the Executive, and not to the courts.
\end{quote}
\item 35 U.S.C.A. § 134 (West 2013) (conducting non-adversarial hearings, the BPAI (now known as the Patent Board of Trials and Appeals) presides over cases after an applicant’s claims have been “twice rejected” by the primary examiner).
\item 1985 Pat. App. LEXIS 11 at 7 (“[N]either the PPA nor the PVPA expressly excludes any plant subject matter from protection under Section 101”).
\item \textit{Id.}
\item 35 U.S.C.A. § 1 (West 2013) (“The United States Patent and Trademark Office is established as an agency of the United States, within the Department of Commerce” – an organization under the Executive branch).
\end{enumerate}
\end{footnotesize}
scope of 35 U.S.C. § 101." These decisions form the precedents which the Supreme Court relied upon when, in 2001, it declared that plants could obtain § 101 utility patent protection.

III. The Four Pillars of the Supreme Court’s Expansion of Utility Patent Protection to Plants

The Supreme Court, in its 2001 *J.E.M. v. Pioneer* decision, relied on four conclusions to support its holding that plants were not precluded from § 101 utility patent protection. First, following the reasoning of *Diamond v. Chakrabarty*, § 101 is to be interpreted very broadly so as to encompass plants within the meaning of “manufacture” or “composition of matter.” Second, the PPA’s protections are not the exclusive venue for plant patenting. Third, the PVPA’s protections are not the exclusive venue for protecting sexually reproduced plants. Lastly, Congressional inaction after the *Diamond v. Chakrabarty* suggests acceptance of judicial decisions allowing the patenting of plants under § 101. Each of these premises will be discussed and debunked by a thorough examination.

1. The Four Categories of § 101 Patentable Subject Matter do not Include Plants

In *J.E.M. v. Pioneer*, the Court relied on the premise, as put forth in *Diamond v. Chakrabarty*, that the language of § 101 must be read extremely broadly to encompass “anything under the sun that is made by man.” However, Justice Stevens later criticized this citation of legislative history:

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53 *J.E.M. v. Pioneer*, 534 U.S. at 145 (“[N]ewly developed plant breeds fall within the terms of § 101, and that neither the PPA nor the PVPA limits the scope of § 101’s coverage”).
54 *Id.*
55 *Id.* at 131.
56 *Id.* at 132.
57 *Id.* at 141.
58 *Id.* at 145.
59 The Supreme Court heard the case on appeal by the alleged infringer J.E.M Ag Supply, Inc. thus the arguments of the Court were presented to reject the petitioner’s many arguments made in the alternative.
Taken in context, it is apparent that the quoted language has a far less expansive meaning. The full sentence in the Committee Reports reads: “A person may have ‘invented’ a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under section 101 unless the conditions of [this] title are fulfilled.”

The Court clearly selectively quoted a small portion of legislative history to achieve far greater support for its position than an honest quotation would have provided. The Court cannot be allowed to rely upon this clear misrepresentation of legislative history to justify its massive judicial expansion of patentable subject matter.

Disregarding the Court’s distortion of history to support its position, the broad language of § 101 is intended as “a dynamic provision designed to encompass new and unforeseen inventions.” Plants, at the time of the *J.E.M. v. Pioneer* decision in 2001, were not a new or unforeseen area of invention. The PPA, enacted more than 20 years before § 101 was created, undoubtedly indicates that Congress was apprised of inventions in the realm of plants. In *J.E.M. v. Pioneer*, the court concluded that plants could fall within the four non-exclusive categories of § 101 that define patentable subject matter. By limiting the examination to patentable subject matter as defined by the then current version of § 101, the court discarded limitations imposed by the PPA that were included in the language defining patentable subject matter prior to 1952. If the Court was correct when it stated that the 1952 revision “did not change the substantive rights or [relax] requirements for such patents,” then the scope of today’s § 101 must include the

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62 *J.E.M. v. Pioneer*, 534 U.S. at 135 (*emphasis added*).
63 35 U.S.C.A. § 161 (*emphasis added*).
64 Townsend-Purnell Plant Patent Act, *supra* note 11 (*emphasis added*).
65 35 U.S.C.A. § 101 (*emphasis added*).
limitations placed on patentable subject matter in § 4886 prior to 1952. In order to avoid substantive changes to patent law through the 1952 recodification, §§ 161-164 must be read to impose limitations excluding plants from the scope of patentable subject matter as defined by § 101. The PPA shows clear Congressional appreciation of plant invention before and after the enactment of § 101 that should have precluded § 101 coverage of plants.

2. **The PPA Should be held to be the Exclusive Venue for Patenting Plants**

When enacted, the PPA offered the only available protection for new and inventive plants. The Court argued that “nothing within either the original 1930 text of the statute or its recodified version in 1952 indicates that the PPA’s protection for asexually reproduced plants was intended to be exclusive.” The Court rejected three separate theories, as put forward by the petitioners, for “why the PPA should preclude assigning utility patents for plants.” They are as follows: (1) plants were not covered by the general utility patent statute prior to 1930, (2) “the PPA’s limitation to asexually reproduced plants would make no sense if Congress intended § 101 to authorize patents on plant varieties that were sexually reproduced,” and (3) “in 1952 Congress would not have moved plants out of the utility patent provision and into § 161 if it had intended § 101 to allow for protection of plants.”

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69 *Diamond v. Chakrabarty*, 447 U.S. at 315 (“Congress has performed its constitutional role in defining patentable subject matter in § 101; we perform ours in construing the language Congress has employed.”).
70 *J.E.M. v. Pioneer*, 534 U.S. at 134 (“plants, even those artificially bred, were products of nature for purposes of the patent law”).
71 *Id*. at 132.
72 *Id*. at 133.
73 *Id*. at 134.
74 *Id*. at 135.
75 *Id*. at 137.
i. The PPA Provides the Only Form of Patenting Plants Because Plants Were Not Protected By Patent Law Prior to 1930

Congress did not include text within the PPA to indicate that it was to be the exclusive venue of plant protection because, when adopted, it was the only available venue for protection.\(^{76}\) Prior to enacting the PPA, plants were understood to be products of nature\(^ {77}\) and incapable of meeting rigorous description requirements\(^ {78}\) to obtain patent protection.\(^ {79}\) In *Diamond v. Chakrabarty*, the Court stated that the PPA addressed these perceived barriers by “relaxing the written description requirement” and confirmed the legislative belief that “the work of the plant breeder” is patentable.\(^ {80}\) Nearly twenty years later, the Court argued that the enactment of the PPA merely shows that “in 1930 Congress believed that plants were not patentable under § 101.”\(^ {81}\) That Congress believed that plants were not patentable prior to enacting the PPA casts doubt on the Court’s reasoning rather than supports it. If no other protections were believed to be available to plants at the time of enacting the PPA, language indicating the exclusiveness of the PPA would have been superfluous. Additionally, whether plants “had the potential to fall within the general subject matter”\(^ {82}\) prior to 1930 became irrelevant after the enactment of the PPA.\(^ {83}\) There is no room for a broad interpretation of the patent law when a specific statute has delineated the exact limits of patent protection granted to

\(^{76}\) S. Rep. No. 315, 71st Cong., 2d Sess. (1930) (“The purpose of the bill is to afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patent system as has been given industry.” (emphasis added)).

\(^{77}\) *J.E.M. v. Pioneer*, 534 U.S. at 134 (“plants, even those artificially bred, were products of nature for purposes of the patent law”).

\(^{78}\) *Id.* (quoting *Diamond v. Chakrabarty*, 447 U.S. at 311-312) (“plants were thought not amenable to the ‘written description’ requirement of the patent law”).

\(^{79}\) *Id.*

\(^{80}\) *Diamond v. Chakrabarty*, 447 U.S. at 312.

\(^{81}\) *J.E.M. v. Pioneer*, 534 U.S. at 134.

\(^{82}\) *Id.* at 135 (emphasis original).

\(^{83}\) *Id.* at 152-53 (Breyer, J., dissenting) (citing United States v. Estate of Romani, 523 U.S. 517, 530–533 (1998)) (holding that a later, specific statute trumps an earlier, more general statute); *See also Diamond v. Chakrabarty*, 447 U.S. at 321 note 4 (Brennan, J., dissenting) (“If the 1930 Act's only purpose were to solve the technical problem of description referred to by the Court, ante, at 2209, most of the Act, and in particular its limitation to asexually reproduced plants, would have been totally unnecessary.”).
plants. The PPA conclusively defined the extent which Congress intended patent rights to extend to plants.

The language of the PPA, amending § 4886, was unambiguous regarding the availability of plant protection only when a breeder “asexually reproduced any distinct and new variety of plant, other than a tuber-propagated plant, not known or used by others in this country.”84 The Court argued that because Congress failed to include unnecessary language denying plant protection under § 101 that it could use its judicial powers to proclaim those rights to exist. It is unfortunate that Congress possibly created an ambiguity by relocating the PPA language to a separate chapter, but the Court should not be allowed to hold a blind eye to history. Unlike the four categories of § 101 that are non-exclusive,85 plants were added to § 4886 as a new category of patentable subject matter with language that indicates exclusivity. The four preexisting non-exclusive categories of § 4886 were prefaced with the language “any person who has invented or discovered” and separated only by commas.86 The PPA added language to § 4886 after a repetitious use of the phrase “who has invented or discovered”87 which indicates an intentional separation from the non-exclusive categories of patentable subject matter. Careful consideration of the text of § 4886 as amended by the PPA indicates the exclusive nature of the statute.

Additionally, the PPA would not have amended § 4886 if the four non-exclusive areas of patentable subject matter included plants. The Court stated that the PPA addressed two deficiencies of patent law to allow plants to obtain some limited patent protections.88 In order to address the written description problems, the PPA amended § 4888 to relax the written

85 J.E.M. v. Pioneer, 534 U.S. at 131-32 (stating that plants “fall within the terms of § 101’s broad language that includes ‘manufacture’ or ‘composition of matter’”).
88 J.E.M. v. Pioneer, 534 U.S. at 134 (stating that plants were believed to be products of nature and incapable of meeting written description requirements of patent law).
description for plant patent applications.\textsuperscript{89} To address the product of nature issue, Congress amended § 4886 which defined statutory subject matter of the patents.\textsuperscript{90} In order to include plants, Congress chose to amend the statute defining the categories of acceptable patentable subject matter. The manner in which Congress implemented the PPA is highly evident of its intent to create an exclusive venue for patenting plants.

\textit{ii. The PPA Provides the Only Form of Patenting Plants Because the PPA’s Limitations are Irreconcilable with Granting § 101 Patents for Plants}

The PPA directly amended patentable subject matter to include only asexually reproduced plants.\textsuperscript{91} The Court argued that limitations of the PPA merely reflect “the reality of plant breeding in 1930”\textsuperscript{92} rather than the calculated bounds of what Congress believed to be appropriate plant protection.\textsuperscript{93} The Court stated that it saw “no evidence, let alone the overwhelming evidence needed to establish repeal by implication … that Congress, by specifically protecting asexually reproduced plants through the PPA, intended to preclude utility patent protection for sexually reproduced plants.”\textsuperscript{94} The Court’s reliance on repeal by implication is misplaced.\textsuperscript{95} Justice Breyer, in dissent, noted that repeal by implication has “traditionally been embraced when a party claims that a later statute—\textit{that does not actually modify an earlier statute}—implicitly repeals the earlier legislation.”\textsuperscript{96} Because the PPA “\textit{explicitly amended the Utility Patent Statute by limiting protection}” the canon against repeal by implication has no

\textsuperscript{89} Townsend-Purnell Plant Patent Act, ch. 312, § 2, 46 Stat. 376 (1930) (codified as amended at 35 U.S.C. § 162 (West 2013)) (“No plant patent shall be declared invalid for noncompliance with section 112 if the description is as complete as is reasonably possible.”).
\textsuperscript{91} Townsend-Purnell Plant Patent Act, \textit{supra} note 11.
\textsuperscript{92} \textit{J.E.M. v. Pioneer}, 534 U.S. at 135.
\textsuperscript{93} \textit{Id.} at 151 (Breyer, J., dissenting) (citing Fowler, \textit{The Plant Patent Act of 1930: A Sociological History of its Creation}, 82 J. PAT. & TM. OFF. SOC. 621, 635, 644 (2000)) (“The Court’s contrary claim notwithstanding, it was readily apparent in 1930 that a plant’s desirable characteristics could be preserved through reproduction by seed.”).
\textsuperscript{94} \textit{Id.} at 137 (citing Matsushita Elec. Industrial Co. v. Epstein, 516 U.S. 367, 381 (1996)).
\textsuperscript{95} \textit{Id.} at 155 (Breyer J., dissenting).
\textsuperscript{96} \textit{Id.}
relevance. Additionally, a separate cannon of the Court states that “a later, more specific statute will ordinarily trump the earlier, more general one.”98 The explicit amendments of patentable subject matter by the PPA prior to the creation of § 101 render the Court’s reliance on repeal by implication an inappropriate.

Granting § 101 utility patents to sexually reproduced plants is irreconcilable with the limitations placed on plant patentability by Congress. Allowing §101 utility patents essentially eliminates the “asexual reproduction” requirement of the PPA.99 Contrary to the Court’s arguments, the PPA can and should apply to all types of plants, both asexually and sexually reproducing.100 The PPA does not delineate between offering protection to plants that naturally reproduce asexually or sexually.101 The asexual reproduction requirement in § 161 is a requirement of invention not an inherent quality of the plant type.102 The asexual reproduction requirement provides statutory assurance that the novel trait is stable and reproducible.103 Asexual reproduction also provides an essential element of proving plant patent infringement that is unique from utility patent protection.104 Because of the asexual reproduction requirement, “independent creation” is a legal defense to infringement of a plant patent.105 However,

97 Id. at 156 (Breyer J., dissenting).
98 Id. (citing United States v. Estate of Romani, 523 U.S. at 530–533).
100 J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Intern., Inc., 2001 WL 674228 (U.S.), 1 (U.S.Resp.Brief,2001) (Plant reproduction (multiplication or propagation) is commonly divided into sexual and asexual methods. The same plant is often capable of reproduction in both ways, whether naturally or artificially.).
101 35 U.S.C.A. § 161 (“Whoever invents or discovers and asexually reproduces any distinct and new variety of plant”).
102 Yoder Bros., Inc. v. California–Florida Plant Corp., 537 F.2d 1347, 1377 (5th Cir.1976) (“For plant patents ... the additional requirement of asexual reproduction is introduced.”), cert. denied, 429 U.S. 1094 (1977).
103 Imazio Nursery, Inc. v. Dania Greenhouses, 69 F.3d 1560, 1566 (Fed. Cir. 1995) (The plant variety “must be asexually reproduced in order to have their identity preserved. This is necessary since seedlings either of chance or self-pollination from any of these would not preserve the character of the individual.”).
104 35 U.S.C.A. § 163 (“[i]n the case of a plant patent, the grant shall include the right to exclude others from asexually reproducing the plant”).
105 Imazio v. Dania Greenhouses, 69 F.3d at 1570 (“It is necessarily a defense to plant patent infringement that the alleged infringing plant is not an asexual reproduction of the patented plant. Part of this proof could be, thus, that the defendant independently developed the allegedly infringing plant.”).
independent creation as a legal defense is wholly contradictory to rights granted under a utility patent.\textsuperscript{106} The Court characterizes the PPA as implementing limitations only because “Congress thought that sexual reproduction through seeds was not a stable way to maintain desirable bred characteristics.”\textsuperscript{107} Ironically, this quote, intended to support the Court’s position, acknowledges that Congress considered and rejected extending plant patent protections to sexually reproduced plants. Under the Court’s interpretation, a plant which naturally reproduces sexually but that had been asexually reproduced could potentially obtain protection under both § 161 and § 101. Accepting the Court’s reading of the statute would “virtually nullify the PPA’s primary condition—that the breeder reproduced the new characteristic.”\textsuperscript{108}

In addition to the asexual reproduction requirement, after the 1952 recodification, the PPA was amended “to preclude patent protection for plants found in an uncultivated state.”\textsuperscript{109} No requirement of § 101 utility patents can sufficient account for or reject the patentability of a new, useful and unique plant found at random in the wild. Requiring plants to be found in a cultivated state is yet another requirement of the PPA that will be discarded under § 101 utility patents for plants. Granting plants protection under both § 101 and § 161 would eviscerate the purpose and limitations of the PPA’s grant of patent protection to plants.

The PPA’s relaxation of the patent application description requirements\textsuperscript{110} does not necessarily render § 101 patents more demanding such that greater protections could be warranted. The Court stated that “advances in biological knowledge and breeding expertise have allowed plant breeders to satisfy § 101’s demanding description requirement.”\textsuperscript{111} However, the

\begin{flushright}
\textsuperscript{106} 35 U.S.C.A. § 154 (West 2013) (“right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States”).
\textsuperscript{107} J.E.M. v. Pioneer, 534 U.S. at 135.
\textsuperscript{108} Id. at 152 (Breyer J., dissenting).
\textsuperscript{110} 35 U.S.C.A. § 162.
\textsuperscript{111} J.E.M. v. Pioneer, 534 U.S. at 135.
\end{flushright}
language of the PPA requiring that the “description is as complete as is reasonably possible”\textsuperscript{112} is adaptable to advances in science as is § 101. As science progresses, what qualifies under the standard of “as complete as is reasonably possible”\textsuperscript{113} could erode the exemption until the description requirements equally apply to both plant patents and utility patents. If the Court is correct that scientific advances allowed plant breeders to satisfy \textit{all} description requirements,\textsuperscript{114} then the exemption contained in § 162 relaxing description requirements of plant patents would be meaningless. But, if § 162 does not in fact lessen the description requirements for plant patents, then the Court’s argument for greater protections under § 101 due to the more demanding requirements is moot.

The Court never mentions that § 101 utility patents for plants would negate Congress’ intent to avoid granting patent rights to food\textsuperscript{115} itself.\textsuperscript{116} The Court completely failed to address how the PPA’s explicit restriction against tuber-propagated plants would be reconciled with availability under § 101 patents. The Legislative history reveals that “[t]his exception is made because this group [tubers] alone, among asexually reproduced plants, [are] propagated by the same part of the plant that is sold as food.”\textsuperscript{117} This seemingly innocuous exemption indicates that Congress, in 1930, acknowledged the complications of patenting self-replicating commodity

\textsuperscript{112} 35 U.S.C.A. § 162.

\textsuperscript{113} Id.

\textsuperscript{114} 35 U.S.C.A. § 112 (West 2013):

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

\textsuperscript{115} Nowhere in the opinion of the Court is the word “food” found in a discussion about the potential grant of monopoly rights to plants.


\textsuperscript{117} Hearings on H.R.11372 before the House Committee on Patents, 71st Cong., 2d Sess. 15 (1930).
By allowing § 101 patents of plants, the Court directly thwarted Congress’ rejection of patent protection to tuber-propagated plants. The failure to so much as consider Congress’ prior attempts to avoid the availability of § 101 patents over commodity plants was a significant oversight by the Court.

iii. Congress Would not have Created § 161 if it Intended § 101 to Apply to Plants.

In 1952, Congress removed the PPA language from utility patent subject matter and created chapter 15 entitled “Plant Patents” of U.S.C. code title 35 to specify the requirements for plant patenting. Interpreting § 101 to include plants after the 1952 recodification effectuates an unwarranted expansion of patentable subject matter defined by the four non-exclusive categories derived from § 4886. The Court argued that creating the plant patent section “simply does not support carving out subject matter that otherwise fits comfortably within the expansive language of § 101.” Although the Court states it is “loath to interpret what was essentially a housekeeping measure as an affirmative decision by Congress,” it is quick to use the “housekeeping measure” to eliminate the PPA’s limitations on patentable subject matter previously encoded in § 4886. Before recodification, patentable subject matter was directly limited by the PPA’s language outlining the prerequisites for the patentability of plants. The Court puts forth no evidence of how such a “housekeeping measure” can justify redefining patentability requirements for plants. § 101 should be read in light of § 161 and should not be expanded to encompass plants within utility patent protection.

118 Bowman v. Monsanto, 133 S. Ct. at 1769 (holding the progeny of patented soybeans can be protected in all generations for the extent of the patent term).
120 Townsend-Purnell Plant Patent Act, supra note 11 (“art, machine, manufacture, or composition of matter”).
122 Id.
123 Id.
124 (“invented or discovered and asexually reproduced any distinct and new variety of plant, other than a tuber-propagated plant, not known or used by others in this country, before his invention or discovery thereof”).
3. **PVPA’s Protections Should be Held to be the Exclusive Venue for Protecting Sexually Reproduced Plants**

The PVPA was a compromise enacted to offer sexually reproduced plants patent-like protections.\(^{125}\) The Court argued that the PVPA could not be held to “restrict the scope of patentable subject matter under § 101.”\(^{126}\) The Court stated that there was no evidence to support the “view that the PVPA provides the exclusive means for protecting sexually reproducing plants.”\(^{127}\) The Court broke down its arguments against PVPA preemption of § 101 protection for plants as follows: (1) The PVPA does not evidence “Congress’ intent to deny broader § 101 utility patent protection,”\(^{128}\) (2) Dual protection granted by both the PVPA and § 101 is not irreconcilable,\(^{129}\) and (3) The PVPA does not alter “the subject-matter coverage of § 101 by implication[.]”\(^{130}\)

**i. The Enactment of the PVPA Clearly Indicates Congress’ Intent to Deny Broader § 101 Utility Patent Protection**

By enacting the PVPA, Congress created a “statutory scheme that is comprehensive with respect to its particular protections and subject matter, giving limited protection to plant varieties that are new, distinct, uniform, and stable.”\(^{131}\) The Court rejected that such a comprehensive scheme was intended to be the exclusive venue for protecting sexually reproduced plants.\(^{132}\) In a parallel to its rejection of the PPA, the Court argued that nowhere in the PVPA “does it restrict the scope of patentable subject matter under § 101.”\(^{133}\) As previously argued, no protections were available under § 101, or any other statute, at the time of enactment and thus any language

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126 *J.E.M. v. Pioneer*, 534 U.S. at 140.
127 *Id.* at 140-41.
128 *Id.* at 138.
129 *Id.* at 144.
130 *Id.* at 141.
131 *Id.* at 140.
132 *Id.*
133 *Id.*
claiming exclusivity by the PVPA would have been superfluous. The Court further argued that legislative history did no more than reveal that some Members of Congress “believed that patent protection was unavailable for sexually reproduced plants” because of “a lack of awareness concerning scientific possibilities.”

The Court conspicuously failed to disclose that the PVPA was a legislative compromise by Congress after specifically rejecting legislation to expand patent protections to sexually reproduced plants. In 1967, the "American Seed Trade Association proposed an amendment to the 1930 PPA by adding ‘or sexually’ to all relevant sections, expanding the Act's coverage to useful, ‘sexually’ reproducing varieties.” Congressional actions striking down such legislation should be accepted as strong evidence of against expanding § 101 coverage to plants. The PVPA was a carefully constructed compromise to afford patent-like protection to sexually reproduced plants that Congress deemed reasonable after refusing to extend patent protections.

ii. Dual Protection of Plants Between the PVPA and the Patent Act is irreconcilable

Dual protection is not appropriate due to the significant variance between protections offered to the same protected plants. In its argument, the Court conflates the overlap of the protections offered with the overlap of subject matter protected. The Court cited to two examples of other intellectual property areas where it previously allowed dual protection to

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134 Id. at 141.
135 Aoki, supra note 27, at 284 (citing Kloppenburg, supra note 27, at 139).
136 Id. (attempting to alter the language of § 161 rather than propose amendments or new interpretations of § 101 to obtain protections for sexually reproduced plants).
137 Id. (The U.S. Department of Agriculture, Land Grant College “agronomists, farmers and public plant breeders at SAESs opposed this move and effectively killed the proposed amendment.”).
138 7 U.S.C.A. §§ 2543-2544 (West 2013) (including the right to save seed, research exemption, and personal non-profit exemption).
139 J.E.M. v. Pioneer, 534 U.S. at 144 (“utility patents and PVP certificates do contain some similar protections, as discussed above, the overlap is only partial”).
support its argument.\textsuperscript{140} \textit{Kewanee Oil v. Bicron} addressed whether state trade secret laws were preempted by federal patent laws.\textsuperscript{141} \textit{Kewanee Oil v. Bicron} is highly distinguishable because it involves two protection schemes which are not available to concurrently protect the same invention due to disclosure requirements.\textsuperscript{142} Additionally, \textit{Kewanee Oil v. Bicron} does not involve two competing federal intellectual property schemes. Because the PVPA and Patent Act are both federal intellectual property statutes, as previously argued, “a later, more specific statute will ordinarily trump the earlier, more general one.”\textsuperscript{143}

\textit{Mazer v. Stein}\textsuperscript{144} presents a much more analogous situation to the issue at hand. There, the Supreme Court held that it was permissible to allow an overlap between Utility Patent and Copyright subject matter.\textsuperscript{145} The Court acknowledged differing protections offered under the two schemes,\textsuperscript{146} including the right to independent creation under copyright law, but found that the different laws protected different aspects of the creation.\textsuperscript{147} Both the PVPA and the Patent Act seek to protect the same exact aspect of invention – the plant. Neither of the cases cited supporting dual protection address situations wherein Congress has previously rejected the exact

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\textsuperscript{140} \textit{Kewanee Oil v. Bicron Corp.}, 416 U.S. 470, 474 (1974) (holding that Ohio state trade secret laws are not preempted by federal patent law); \textit{Mazer v. Stein}, 347 U.S. 201, 217 (1954) (holding “the patentability of the statuettes, fitted as lamps or unfitted, does not bar copyright as works of art.”).

\textsuperscript{141} \textit{Id.} (“We hold that Ohio’s law of trade secrets is not preempted by the patent laws of the United States.”).

\textsuperscript{142} \textit{Id.} at 475 (“[t]he subject of a trade secret must be secret, and must not be of public knowledge”); \textit{but See Id.} at 480 (“patent laws impose upon the inventor a requirement of disclosure”).


\textsuperscript{144} \textit{Id.} at 217 (“Neither the Copyright Statute nor any other says that because a thing is patentable it may not be copyrighted.”).

\textsuperscript{145} \textit{Mazer v. Stein}, 347 U.S. 201.

\textsuperscript{146} \textit{Id.} at 217 (“Neither the Copyright Statute nor any other says that because a thing is patentable it may not be copyrighted.”).

\textsuperscript{147} 35 U.S.C.A. § 271 (West 2013) (“whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent”); \textit{but See 17 U.S.C.A. § 107} (West 2013) (“fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright”).

\textsuperscript{147} \textit{Id.} at 218 (“The dichotomy of protection for the aesthetic is not beauty and utility but art for the copyright and the invention of original and ornamental design for design patents.”).
protections sought. Dual protection should not be afforded when Congress created a comprehensive alternative body of law providing significant protections in direct response to the protections sought.

iii. The PVPA Implicitly Limits the Subject Matter Coverage of § 101

Repeal by implication is presumptively disfavored, but appropriate here where Congress created comprehensive legislation irreconcilable with utility patent protection. The Court argued that it is “much more difficult to obtain a utility patent for a plant than to obtain a PVP certificate” and thus granting greater protections to plants under § 101 was warranted. Whether § 101 actually imposes a stricter standard to obtain protection is not clear on the record. The primary manner in which seeds meet the description requirements of § 101 is by the deposit of biological materials. The Court noted that such deposits of biological material under § 101 are “publicly accessible,” but made special note of the fact that, although the PVPA also has deposit requirements, “neither the statute nor the applicable regulation mandates that such material be accessible to the general public during the term of the PVP certificate.” The great irony of this statement is that only under the PVPA would public accessibility to the

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148 Aoki, supra note 27, at 284 (citing Kloppenburg, supra note 27, at 139).
149 J.E.M. v. Pioneer, 534 U.S. at 141-42 (quoting Morton v. Mancari, 417 U.S. 535, 550 (1974) (“the only permissible justification for a repeal by implication is when the earlier and later statutes are irreconcilable.”)).
150 Id. at 142 (stating that “a utility patentable plant must be new, useful, and nonobvious” – nonobvious does not exist as a requirement within the PVPA).
151 Id. at 138.
152 J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Intern., Inc., 2001 WL 1196195 (U.S.), 21-22 (U.S.Oral.Arg.,2001) As far as the case--the record--the evidence that's in the record in this case is that it's harder to get a Plant Variety Protection certificate because there was the corn hybrids that were patented in this case. The inbred parents were not deposited, only the hybrid seed. The hybrid seed, when you plant it, you get all different types of plants. You cannot recreate the hybrid without having the inbred parents' deposit. The PVP requires deposit of the inbred seed. The PVP requires that you give the breeding history. There's no requirement of that for the patent.
153 37 C.F.R. § 1.802 (West 2013) (“Where an invention is, or relies on, a biological material, the disclosure may include reference to a deposit of such biological material.”).
155 Id. at 143.
deposit provide a public benefit. Without any right for another to make or use the protected plant, the fact that § 101 plants are “publicly accessible” is a farce. The deposit of a utility patent protected plant only serves to minimize the “stricter standard” of obtaining protection. The claimed increase of availability and stricter standards of obtaining protection are tenuous. Regardless, the manner in which a sexually reproduced plant is disclosed is not at issue. The issue is whether granting patent rights to sexually reproduced plants is irreconcilable with the PVPA.

The PVPA was carefully construed to extend protections to sexually reproduced plants that intentionally do not match rights granted to utility patents. The PVPA contains three important exclusions to infringement that are not available in patent law: (1) “use and reproduction of a protected variety for plant breeding or other bona fide research,” (2) a person may save seed and “use such saved seed in the production of a crop for use on the farm of the person,” and (3) “any act done privately and for noncommercial purposes.” The Court argued that “there is no evidence that the availability of such patents has rendered the PVPA and its specific exemptions obsolete.” However, each of these exemptions includes an act of making a copy that constitutes infringement of a utility patent. The Supreme Court, in Bowman v. Monsanto, confirmed that saving and replanting seeds patented under § 101

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156 7 U.S.C.A. § 2544 (“The use and reproduction of a protected variety for plant breeding or other bona fide research shall not constitute an infringement of the protection provided under this chapter.”)
157 Id. at 155 (Breyer, J., dissenting) (“there is no relationship between the criteria differences and the exemptions.”).
159 7 U.S.C.A. § 2543.
160 7 U.S.C.A. § 2541(e).
162 35 U.S.C.A. § 271 (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).
163 Bowman v. Monsanto, 133 S. Ct. 1761.
constitutes infringement.\textsuperscript{164} By rejecting the applicability of the first sale doctrine to plant seeds, the Supreme Court effectively usurped the legislative process and eliminated the carefully crafted limitations Congress applied to sexually reproduced plants. In both of these opinions, the Court contoured its arguments to avoid addressing the impact of any of the irreconcilable conflicts created by granting utility patents to plants. Granting utility patents to plants ignores Congressional action\textsuperscript{165} and effectively eliminates the exemptions in the PVPA.

4. \textbf{Congressional Action Prior to Diamond v. Chakrabarty Trumps any Perceived Inaction Thereafter}

Congressional action on the specific subject of the protections offered to plants prior to Diamond v. Chakrabarty should not be discarded due to inaction. The PTO granted utility patents for plants for nearly 16 years between when Patent Trial Board of Appeals and Interferences held that plants could be patentable under § 101\textsuperscript{166} and when the issue reached the Supreme Court.\textsuperscript{167} The Court argued that this delay “suggests a recognition on the part of Congress that plants are patentable under § 101.”\textsuperscript{168} If Congress had not addressed the protections to be offered to plants both within patent law with the PPA and outside of patent law with the PVPA, this argument might hold. But Congress has created and updated comprehensive plant protection legislation.\textsuperscript{169} Congress cannot be expected to legislatively respond every time a

\textsuperscript{164} Although the applicability of patent exhaustion was an open question as of the date of the J.E.M. v. Pioneer decision, the possible conflict with PVPA exemptions did not escape the court. At oral argument, speaking to the representative of the respondent Pioneer, the Court asked, “if I was a farmer and I just bought the seeds, you tell me it’s a patented product and I plant the seeds. The next year I want to use the product of the--that plant and save some of those seeds to plant the next year. That’s an infringement?” J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Intern., Inc., 2001 WL 1196195 (U.S.), 34 (U.S.Oral.Arg.,2001).

\textsuperscript{165} Aoki, supra note 27, at 284 (citing Kloppenburg, supra note 27, at 139).

\textsuperscript{166} 1985 Pat. App. LEXIS 11 at 7 (“neither the PPA nor the PVPA expressly excludes any plant subject matter from protection under Section 101”).

\textsuperscript{167} J.E.M. v. Pioneer, 534 U.S. at 144 (“the PTO has assigned utility patents for plants for at least 16 years”).

\textsuperscript{168} Id. at 145.

lower court skirts one of its regulations. Statistics previously cited\textsuperscript{170} for the interim 16 years suggests that applicants were unsure if the PTO stance of plant patentability would survive further court scrutiny. Because Congress had definitively addressed protections for plants prior to lower court decisions, inaction prior to the Supreme Court’s decision cannot be held as proof that Congress agrees with the Court.

The Court also argued that “1999 amendment to 35 U.S.C. § 119” which added plant provisions to the section regarding international priority dates\textsuperscript{171} suggests that Congress recognized utility patent availability for plants. The reliance on this amendment is misplaced. Section 119(f) reads:

\begin{quote}
Applications for plant breeder’s rights filed in a WTO member country (or in a foreign UPOV Contracting Party) shall have the same effect for the purpose of the right of priority under subsections (a) through (c) of this section as applications for patents, subject to the same conditions and requirements of this section as apply to applications for patents.\textsuperscript{172}
\end{quote}

Simply because § 119 is not included in Chapter 15 of title 35 does not remove its applicability to plant patents or suggest an acceptance of utility patents for plants.\textsuperscript{173} Chapter 15 includes no discussion of priority rules\textsuperscript{174} to be applied to plant patent applications. Chapter 15 incorporates the rules of other chapters, including chapter 11 of title 35 regarding applications for patents\textsuperscript{175} and the priority rules included therein.\textsuperscript{176} A minor addition to the priority rules of patent applications, which is applicable to plant patent applications, cannot evidence Congressional acceptance of § 101 covering plants.

\textsuperscript{170} J.E.M. v. Pioneer, 534 U.S. at 141 n.12 (“over 5,000 PVP certificates have been issued, as compared to about 1,800 utility patents for plants.”).
\textsuperscript{171} Id. at 145.
\textsuperscript{172} 35 U.S.C.A. § 119 (West 2013).
\textsuperscript{173} 35 U.S.C.A. § 161 (including by reference all other “the conditions and requirements of this title”).
\textsuperscript{174} 35 U.S.C.A. § 161-64 et. seq..
\textsuperscript{175} 35 U.S.C.A. § 111-23 et seq. (West 2013).
\textsuperscript{176} 35 U.S.C.A. § 119.
IV. Conclusion

In 1977, when a court first accepted that a living organisms could be patentable under § 101 it wrote that it was aware that there were “fears that our holding will of necessity, or ‘logically,’ make all new, useful, and unobvious species of plants, animals, and insects created by man patentable, we think the fear is far-fetched.” When the Supreme Court expanded § 101 to include sexually reproduced plants it dismissed fears that its reading would destroy the PVPA’s exemptions to save seeds and allow for research to continue on protected plants. But in 2013, the Supreme Court ensured that those PVPA exemptions, intended to secure plant diversity, were rendered meaningless by granting near absolute protection to the progeny of self-replicating patented plants. The Supreme Court continually turned a blind eye to the repercussions of its decisions as it continually has expanded § 101 patent eligible subject matter to nearly all living things. When Congress has legislated in a particular area, the Court’s job “is the narrow one of determining what Congress meant by the words it used in the statute; once that is done our powers are exhausted.” Here, the Court failed that task. The Court failed to address the specific conflicts created by judicial expansion of § 101 coverage into areas previously controlled by the PPA and the PVPA.

Congress can and should overrule the Supreme Court by adding a single sentence into the PVPA or the PPA to indicate that they were and still are intended to be the exclusive venues of protecting plants. The right to grant patents is one of the few powers explicitly granted to Congress in the Constitution. As was stated by the Court in Diamond v. Chakrabarty:

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177 In re Application of Bergy, 563 F.2d at 1038.
179 Bowman v. Monsanto, 133 S. Ct. 1761.
180 Diamond v. Chakrabarty, 447 U.S. at 318.
181 U.S. Const. art. I, § 8, cl. 8 (West 2013) (“To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”).
It is the role of Congress, not this Court, to broaden or narrow the reach of the patent laws. This is especially true where, as here, the composition sought to be patented uniquely implicates matters of public concern.\(^{182}\)

A simple modification to either plant specific legislation would reestablish Congress in its intended roll as the body defining patentable subject matter.

\(^{182}\) *Diamond v. Chakrabarty*, 447 U.S. at 322.