

**In the Supreme Court of the United States**

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J.E.M. AG SUPPLY, INC., DBA FARM ADVANTAGE,  
INC., ET AL., PETITIONERS

*v.*

PIONEER HI-BRED INTERNATIONAL, INC.

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*ON WRIT OF CERTIORARI  
TO THE UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT*

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**BRIEF FOR THE UNITED STATES  
AS AMICUS CURIAE SUPPORTING RESPONDENT**

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**QUESTION PRESENTED**

Whether sexually reproduced plants are patentable subject matter under 35 U.S.C. 101.

## TABLE OF CONTENTS

|                                                                                                                                                                    | Page |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Interest of the United States .....                                                                                                                                | 1    |
| Statement .....                                                                                                                                                    | 2    |
| Summary of argument .....                                                                                                                                          | 8    |
| Argument:                                                                                                                                                          |      |
| I. <i>Stare decisis</i> principles foreclose petitioners’ arguments based upon the text of Section 101 and the legislative histories of the PPA and the PVPA ..... | 10   |
| II. Congressional action since <i>Chakrabarty</i> and <i>Hibberd</i> confirms that sexually reproduced plants are patentable under Section 101 .....               | 17   |
| III. Granting utility patents for sexually reproduced plants under Section 101 does not conflict with the PVPA .....                                               | 21   |
| Conclusion .....                                                                                                                                                   | 30   |

## TABLE OF AUTHORITIES

### Cases:

|                                                                                                                                       |               |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <i>Ajinimoto Co. v. Archer-Daniels-Midland Co.</i> ,<br>228 F.3d 1338 (Fed. Cir. 2000), cert. denied, 121<br>S. Ct. 1957 (2001) ..... | 25            |
| <i>American Safety Table Co. v. Schreiber</i> , 415 F.2d<br>373 (2d Cir. 1969), cert. denied, 396 U.S. 1038<br>(1970) .....           | 26            |
| <i>Arzberger, In re</i> , 112 F.2d 834 (C.C.P.A. 1940) .....                                                                          | 5             |
| <i>Blau v. Lehman</i> , 368 U.S. 403 (1962) .....                                                                                     | 17            |
| <i>Blue Chip Stamps v. Manor Drug Stores</i> , 421<br>U.S. 723 (1975) .....                                                           | 17            |
| <i>Brenner v. Manson</i> , 383 U.S. 51 (1966) .....                                                                                   | 2             |
| <i>County of Yakima v. Confederated Tribes &amp; Bands<br/>of the Yakima Nation</i> , 502 U.S. 251 (1992) .....                       | 21            |
| <i>Diamond v. Chakrabarty</i> , 447 U.S. 303 (1980) .....                                                                             | <i>passim</i> |
| <i>Diamond v. Diehr</i> , 450 U.S. 174 (1981) .....                                                                                   | 11, 12        |

# IV

| Cases—Continued:                                                                                                     | Page       |
|----------------------------------------------------------------------------------------------------------------------|------------|
| <i>FDA v. Brown &amp; Williamson Tobacco Corp.</i> ,<br>529 U.S. 120 (2000) .....                                    | 13, 22     |
| <i>Hibberd, Ex parte</i> , 227 U.S.P.Q. (BNA) 443 (Bd.<br>Pat. App. & Interf. 1985) .....                            | 6, 17, 22  |
| <i>Hilton v. South Carolina Pub. Rys. Comm’n</i> ,<br>502 U.S. 197 (1991) .....                                      | 14         |
| <i>Illinois Brick Co. v. Illinois</i> , 431 U.S. 720 (1977) .....                                                    | 13         |
| <i>Kewanee Oil Co. v. Bicron Corp.</i> , 416 U.S. 470<br>(1974) .....                                                | 25         |
| <i>Matsushita Elec. Indus. Co. v. Epstein</i> , 516<br>U.S. 367 (1996) .....                                         | 21         |
| <i>Mazer v. Stein</i> , 347 U.S. 201 (1954) .....                                                                    | 26, 28     |
| <i>NLRB v. International Longshoremens’ Ass’n</i> ,<br>473 U.S. 61 (1985) .....                                      | 16         |
| <i>Neal v. United States</i> , 516 U.S. 284 (1996) .....                                                             | 13         |
| <i>Panduit Corp. v. All States Plastic Mfg. Co.</i> ,<br>744 F.2d 1564 (Fed. Cir. 1984) .....                        | 14         |
| <i>Patterson v. McLean Credit Union</i> , 491 U.S. 164<br>(1989) .....                                               | 13         |
| <i>Payne v. Tennessee</i> , 501 U.S. 808 (1991) .....                                                                | 15         |
| <i>Planned Parenthood v. Casey</i> , 505 U.S. 833<br>(1992) .....                                                    | 14, 15, 16 |
| <i>Posadas v. National City Bank</i> , 296 U.S. 497<br>(1936) .....                                                  | 21         |
| <i>Protectors Ins. Serv., Inc. v. United States Fid. &amp;<br/>Guar. Co.</i> , 132 F.3d 612 (10th Cir. 1998) .....   | 26         |
| <i>Radzanower v. Touche Ross &amp; Co.</i> , 426 U.S. 148<br>(1976) .....                                            | 21         |
| <i>Roche Prods., Inc. v. Bolar Pharm. Co.</i> , 733 F.2d<br>858 (Fed. Cir.), cert. denied, 469 U.S. 856 (1984) ..... | 23         |
| <i>Ropat Corp. v. McGraw-Edison Co.</i> , 535 F.2d 378<br>(7th Cir. 1976) .....                                      | 26, 27     |
| <i>State Oil Co. v. Khan</i> , 522 U.S. 3 (1997) .....                                                               | 13-14      |
| <i>TrafFix Devices, Inc. v. Marketing Displays, Inc.</i> ,<br>121 S. Ct. 1255 (2001) .....                           | 2, 26-27   |

|                                                                                                                               |               |
|-------------------------------------------------------------------------------------------------------------------------------|---------------|
| Cases—Continued:                                                                                                              | Page          |
| <i>United States v. Borden Co.</i> , 308 U.S. 188 (1939) .....                                                                | 22            |
| <i>United States v. Dubilier Condenser Corp.</i> ,<br>289 U.S. 178 (1933) .....                                               | 14            |
| <i>United States v. Paramount Pictures, Inc.</i> ,<br>334 U.S. 131 (1948) .....                                               | 28            |
| <i>Warner-Jenkinson v. Hilton Davis Chem. Co.</i> ,<br>520 U.S. 17 (1997) .....                                               | 23            |
| Constitution, statutes and regulations:                                                                                       |               |
| U.S. Const. Art. I, § 8, Cl. 8 (Patent Clause) .....                                                                          | 1, 27         |
| District of Columbia Appropriations Act, 1999, Pub. L.<br>No. 106-113, Tit. II, Div. B, § 1000(a)(9), 113 Stat.<br>1536 ..... | 19            |
| Lanham Act, 15 U.S.C. 1125(a)(3) (Supp. V 1999) .....                                                                         | 27            |
| Patent Act of 1790, ch. 7, 1 Stat. 109 .....                                                                                  | 2             |
| Patent Act of 1952, 35 U.S.C. 1 <i>et seq.</i> :                                                                              |               |
| 35 U.S.C. 101 .....                                                                                                           | <i>passim</i> |
| 35 U.S.C. 101-103 (1994 & Supp. V 1999) .....                                                                                 | 24            |
| 35 U.S.C. 112 .....                                                                                                           | 4, 11, 25     |
| 35 U.S.C. 114 (1994 & Supp. V 1999) .....                                                                                     | 25            |
| 35 U.S.C. 119 (1994 & Supp. V 1999) .....                                                                                     | 19            |
| 35 U.S.C. 119(f) (Supp. V 1999) .....                                                                                         | 9, 19         |
| 35 U.S.C. 131 (1994 & Supp. V 1999) .....                                                                                     | 1, 24         |
| 35 U.S.C. 132 .....                                                                                                           | 24            |
| 35 U.S.C. 154(a) .....                                                                                                        | 2             |
| Plant Patent Act of 1930, ch. 312, 46 Stat. 376 .....                                                                         | 2             |
| 35 U.S.C. 161 .....                                                                                                           | 4             |
| 35 U.S.C. 161-164 (1994 & Supp. V 1999) .....                                                                                 | 2, 19         |
| 35 U.S.C. 162 .....                                                                                                           | 4             |
| 35 U.S.C. 163 (1994 & Supp. V 1999) .....                                                                                     | 20            |
| 35 U.S.C. 171 .....                                                                                                           | 2             |
| 35 U.S.C. 271(c) .....                                                                                                        | 20            |
| 35 U.S.C. 271 note .....                                                                                                      | 21            |
| 35 U.S.C. 282 (1994 & Supp. V 1999) .....                                                                                     | 24            |

# VI

| Statutes and regulations—Continued:                                                                                                                                                                                                                                     | Page     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Plant Patent Amendments Act of 1998, Pub. L. No. 105-289, 112 Stat. 2780:                                                                                                                                                                                               |          |
| § 2, 112 Stat. 2780 .....                                                                                                                                                                                                                                               | 20       |
| § 3, 112 Stat. 2781 .....                                                                                                                                                                                                                                               | 20       |
| Plant Variety Protection Act, Pub. L. No. 91-577, 84 Stat. 1542:                                                                                                                                                                                                        |          |
| 7 U.S.C. 2401(a)(9) .....                                                                                                                                                                                                                                               | 6        |
| 7 U.S.C. 2402 (1994 & Supp. V 1999) .....                                                                                                                                                                                                                               | 24       |
| 7 U.S.C. 2402(a) (1994 & Supp. V 1999) (§ 42(a), 84 Stat. 1547)) .....                                                                                                                                                                                                  | 4, 5, 12 |
| 7 U.S.C. 2422 .....                                                                                                                                                                                                                                                     | 25       |
| 7 U.S.C. 2422(2) .....                                                                                                                                                                                                                                                  | 25       |
| 7 U.S.C. 2422(4) .....                                                                                                                                                                                                                                                  | 25       |
| 7 U.S.C. 2483 (1994 & Supp. V 1999) .....                                                                                                                                                                                                                               | 5        |
| 7 U.S.C. 2532 .....                                                                                                                                                                                                                                                     | 5        |
| 7 U.S.C. 2541 .....                                                                                                                                                                                                                                                     | 5        |
| 7 U.S.C. 2541(a)(9) .....                                                                                                                                                                                                                                               | 26       |
| 7 U.S.C. 2543 .....                                                                                                                                                                                                                                                     | 9, 24    |
| 7 U.S.C. 2544 .....                                                                                                                                                                                                                                                     | 9, 24    |
| The Uruguay Round Agreements Act, Pub. L. No. 103-465, Tit. V, § 533(a)(2), 108 Stat. 4989 .....                                                                                                                                                                        | 21       |
| 28 U.S.C. 1295(a) (1994 & Supp. V 1999) .....                                                                                                                                                                                                                           | 22       |
| 28 U.S.C. 1338 (1994 & Supp. V 1999) .....                                                                                                                                                                                                                              | 22       |
| 7 C.F.R. 97.6 .....                                                                                                                                                                                                                                                     | 25       |
| 37 C.F.R.:                                                                                                                                                                                                                                                              |          |
| Sections 1.801-1.809 .....                                                                                                                                                                                                                                              | 25       |
| Section 1.806 .....                                                                                                                                                                                                                                                     | 28       |
| Miscellaneous:                                                                                                                                                                                                                                                          |          |
| C. Chong, Plant Propagation, <i>reprinted in 1 CRC Handbook of Plant Science in Agriculture</i> (B. Christie & A. Hanson eds., 1987 ) .....                                                                                                                             | 3, 5     |
| College of Tropical Agric. & Human Res., Univ. of Haw., <i>What Makes a Good Avocado Cultivar Good</i> (Mar. 1999) (available at < <a href="http://www2.ctahr.hawaii.edu/oc/freepubs/pdg/F_N-1.pdf">http://www2.ctahr.hawaii.edu/oc/freepubs/pdg/F_N-1.pdf</a> >) ..... | 3        |

## VII

| Miscellaneous—Continued:                                                                                                                                                                                                                                                                                                             | Page   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 134 Cong. Rec. (1988):                                                                                                                                                                                                                                                                                                               |        |
| p. 25,564 .....                                                                                                                                                                                                                                                                                                                      | 18     |
| pp. 23,565-23,566 .....                                                                                                                                                                                                                                                                                                              | 18     |
| 136 Cong. Rec. (1990):                                                                                                                                                                                                                                                                                                               |        |
| p. 2564 .....                                                                                                                                                                                                                                                                                                                        | 18     |
| p. 2565 .....                                                                                                                                                                                                                                                                                                                        | 18     |
| 138 Cong. Rec. 9590 (1992) .....                                                                                                                                                                                                                                                                                                     | 18     |
| 139 Cong. Rec. (1993):                                                                                                                                                                                                                                                                                                               |        |
| p. 19,979 .....                                                                                                                                                                                                                                                                                                                      | 18     |
| p. 19,980 .....                                                                                                                                                                                                                                                                                                                      | 18     |
| Economic Research Serv., U.S. Dep't of Agric.,<br><i>Agricultural Research and Development: Public<br/>    and Private Investments Under Alternative<br/>    Markets and Institutions</i> (1996) (available at<br>< <a href="http://www.ers.usda.gov/publications/aer735/">http://www.ers.usda.gov/publications/aer735/</a> >) ..... | 15     |
| 8 T. Everett, <i>The New York Botanical Garden<br/>    Illustrated Encyclopedia of Horticulture</i> (1981) .....                                                                                                                                                                                                                     | 3      |
| H.R. Rep. No. 464, 106th Cong., 1st Sess. (1999) .....                                                                                                                                                                                                                                                                               | 19, 20 |
| H.R. Rep. No. 699, 103d Cong., 2d Sess. (1994) .....                                                                                                                                                                                                                                                                                 | 15     |
| H.R. Rep. No. 1923, 82d Cong., 2d Sess. (1952) .....                                                                                                                                                                                                                                                                                 | 11     |
| 1077 Off. Gaz. Pat. Office (Apr. 21, 1987) .....                                                                                                                                                                                                                                                                                     | 6      |
| S. Rep. No. 275, 97th Cong., 1st Sess. (1982) .....                                                                                                                                                                                                                                                                                  | 14     |
| S. Rep. No. 1246, 91st Cong., 2d Sess. (1970) .....                                                                                                                                                                                                                                                                                  | 22     |
| S. Rep. No. 1979, 82d Cong., 2d Sess. (1952) .....                                                                                                                                                                                                                                                                                   | 11     |
| <i>The New Royal Horticultural Society Dictionary of<br/>    Gardening</i> (A. Huxley, et al. eds., 1992):                                                                                                                                                                                                                           |        |
| Vol. 3 .....                                                                                                                                                                                                                                                                                                                         | 4      |
| Vol. 4 .....                                                                                                                                                                                                                                                                                                                         | 3      |
| The Ohio State Univ., <i>2001 Ohio Vegetable Produc-<br/>    tion Guide</i> (2001) (available at < <a href="http://www.ag.ohio-state.edu/~ohioline/b672/b672_20.html">http://www.ag.ohio-<br/>state.edu/~ohioline/b672/b672_20.html</a> >) .....                                                                                     | 3      |
| United States Patent and Trademark Office, <i>Manual<br/>    of Patent Examining Procedure</i> (7th ed., 1st rev.<br>Feb. 2000) .....                                                                                                                                                                                                | 26     |
| U.S. Patent:                                                                                                                                                                                                                                                                                                                         |        |
| No. 5,491,295 (Feb. 13, 1996) .....                                                                                                                                                                                                                                                                                                  | 25     |
| No. 5,506,367 (Apr. 9, 1996) .....                                                                                                                                                                                                                                                                                                   | 25     |
| No. 5,608,142 (Mar. 4, 1997) .....                                                                                                                                                                                                                                                                                                   | 23     |
| No. 5,668,294 (Sept. 16, 1997) .....                                                                                                                                                                                                                                                                                                 | 29     |

## VIII

| Miscellaneous—Continued:            | Page |
|-------------------------------------|------|
| No. 5,763,245 (June 9, 1998) .....  | 29   |
| No. 6,034,298 (Mar. 7, 2000) .....  | 29   |
| No. 6,166,290 (Dec. 26, 2000) ..... | 29   |

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## **BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT**

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### **INTEREST OF THE UNITED STATES**

This case presents the question whether plants that are modified by man and reproduced from seed (specifically, man-modified corn seed plants) are patentable under 35 U.S.C. 101. The United States has a substantial interest in the resolution of that question because Congress, pursuant to the Patent Clause of the Constitution, U.S. Const. Art. I, § 8, Cl. 8, has charged the United States Patent and Trademark Office (PTO), an agency of the Department of Commerce, with responsibility for examining all patent applications to ensure that they satisfy the statutory conditions for patentability. See 35 U.S.C. 131 (1994 & Supp. V 1999). For more than 15 years, the PTO has issued patents under 35 U.S.C. 101 for plants that are reproduced from seed and otherwise qualify for protection. The United States also has

an interest in preserving the balance that Congress has struck among the competing policy interests that underlie the patent system. Those interests include establishing and preserving incentives for innovation, disseminating useful knowledge, and preserving competition.

At this Court’s invitation, the United States filed a brief as *amicus curiae* in this case at the petition stage.

### STATEMENT

1. Three different statutory schemes are relevant to this case.

*Utility Patents.* Section 101 of Title 35, which has its origins in the Patent Act of 1790, ch. 7, 1 Stat. 109, provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of [Title 35].” 35 U.S.C. 101. Patents issued under Section 101 are known as “utility patents,” because of the requirement that a patentable invention be “useful.” See generally *TrafFix Devices, Inc. v. Marketing Displays, Inc.*, 121 S. Ct. 1255, 1260-1263 (2001); see also *Brenner v. Manson*, 383 U.S. 519, 528-536 (1966). Holders of utility patents have the right to exclude others from making, using, or selling their patented invention in the United States during the 20-year term of the patent. 35 U.S.C. 154(a). Utility patents are distinct from “design patents,” which are issued under 35 U.S.C. 171 for “new, original and ornamental design[s]” for articles of manufacture.

*The Plant Patent Act.* The Plant Patent Act of 1930 (PPA), ch. 312, 46 Stat. 376 (35 U.S.C. 161-164 (1994 & Supp. V 1999)), authorizes the PTO to grant “plant patents” covering new and distinct varieties of asexually reproduced plants. Asexual (or vegetative) reproduction of plants involves regeneration of vegetative tissues or organs into self-

supporting plants with properties similar to those of the source plant. Asexually reproduced plants are reproduced from a single parent, through processes such as grafting, budding, cutting, rooting, and layering.<sup>1</sup> Asexual reproduction may occur naturally, or as part of human plant-breeding. Either way, an asexually reproduced plant is genetically identical to its parent. See 8 T. Everett, *The New York Botanical Garden Illustrated Encyclopedia of Horticulture* 2801 (1981) (“Plants resulting from vegetative propagation are essent[i]ally extensions of the old ones, having a separate physical existence, but identical genetically.”). Accordingly, a plant that is reproduced asexually will be capable of reproducing sexually through seed if, but only if, its parent was capable of such reproduction.<sup>2</sup>

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<sup>1</sup> A cutting, for instance, is propagated by growing roots out of a stem or other vegetative part detached from the parent plant. See 4 *The New Royal Horticultural Society Dictionary of Gardening* 615 (A. Huxley, et al. eds., 1992). Vegetative propagation is used primarily for reproducing plants, such as most fruit, nut, and woody crop species, that do not produce from seeds with consistent genetic characteristics. See C. Chong, “Plant Propagation,” reprinted in 1 *CRC Handbook of Plant Science in Agriculture* 91 (B. Christie & A. Hanson eds., 1987). Asexual propagation also can allow more rapid production of plants because it eliminates problems associated with seed dormancy and germination. *Id.* at 92.

<sup>2</sup> For example, most commercially grown avocados come from plants that are reproduced asexually through grafting. But the avocado seed, even from a grafted parent, is capable of producing a new cultivar. See College of Tropical Agric. & Human Res., Univ. of Haw., *What Makes a Good Avocado Cultivar Good* 1 (Mar. 1999) (available at <[http://www2.ctahr.hawaii.edu/oc/freepubs/pdf/F\\_N-1.pdf](http://www2.ctahr.hawaii.edu/oc/freepubs/pdf/F_N-1.pdf)>). Peppermint also is reproduced asexually (through cuttings from the root system of the source plant), but peppermint does not produce seeds and it is incapable of sexual reproduction. See The Ohio State Univ., *2001 Ohio Vegetable Production Guide (Bulletin 672-01)* 3 (available at <[http://www.ag.ohio-state.edu/~ohioline/b672/b672\\_20.html](http://www.ag.ohio-state.edu/~ohioline/b672/b672_20.html)>).

Section 161 of Title 35 provides:

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.

35 U.S.C. 161. Section 161 further provides that, as a general rule, “[t]he provisions of [Title 35] relating to patents for inventions shall apply to patents for plants.” 35 U.S.C. 161. Section 162, however, eases the “written description” and “distinct[] claim[]” requirements that apply to utility patents under 35 U.S.C. 112. In the case of an asexually reproduced plant, the applicant’s written description of the invention need only be “as complete as is reasonably possible,” and the subject matter that is claimed as the invention may be described “in formal terms,” by reference “to the plant shown and described.” 35 U.S.C. 162.

The PTO has granted more than 10,000 plant patents under Section 161.

*The Plant Variety Protection Act.* The Plant Variety Protection Act (PVPA), Pub. L. No. 91-577, Tit. II, § 42(a), 84 Stat. 1547, enacted in 1970, provides protection to novel varieties of sexually reproduced plants. In sexually reproduced plants, the fertilization process introduces genetic variation into the plant line.<sup>3</sup> To receive protection under

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<sup>3</sup> In sexual reproduction, the genes controlling plant characteristics are distributed in pollen (the male genes) and in ovules (the female genes). Pollen grains enter the base of the developing ovule, the genetic material combines, and the plant embryo forms inside the seed husk. See 3 *The New Royal Horticultural Society Dictionary of Gardening* 642-643 (A. Huxley, et al. eds., 1992). After the seed has fully developed, it will, under the appropriate conditions, germinate and develop into another plant that

the PVPA, therefore, a new plant variety that is reproduced from seed must be clearly distinct from other known varieties; uniform, such that variations in the sexually reproduced plants are describable, predictable, and commercially acceptable; and stable, so that the essential and distinctive characteristics of the variety are present in sexually reproduced offspring. See 7 U.S.C. 2402(a) (1994 & Supp. V 1999).

The Department of Agriculture issues plant variety certificates under the PVPA to breeders of novel varieties of sexually reproduced plants. See 7 U.S.C. 2483 (1994 & Supp. V 1999) (“Contents and term[s] of plant variety protection”). Plant variety certificates entitle the holder to the equivalent of a property interest in the plant variety, for a term of 20 or 25 years. 7 U.S.C. 2532, 2541.

2. This Court has addressed the relationship between utility patenting under Section 101, and protection under the PPA and the PVPA. In *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), this Court held that a genetically engineered bacterium capable of breaking down crude oil, even though a living thing, was patentable subject matter under the plain language of Section 101. *Id.* at 305, 308-310. In so holding, the Court rejected the argument (made by the government in that case) that Congress’s adoption of the PPA and PVPA was evidence of the exclusion of living things from the scope of patentable subject matter under Section 101. *Id.* at 310-314.<sup>4</sup>

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expresses the genetic characteristics of the combination of its parents’ genes. Seed propagation is usually the cheapest method of plant reproduction. It is used for cereal grains and many other popular crops. C. Chong, “Plant Propagation,” *reprinted in 1 CRC Handbook of Plant Science in Agriculture* 91 (B. Christie & A. Hanson eds., 1987).

<sup>4</sup> Well before *Chakrabarty*, the PTO had held that bacteria are not “plants” for purposes of obtaining patent protection under the PPA. See *In re Arzberger*, 112 F.2d 834, 835-836 (C.C.P.A. 1940). Likewise, the

Five years after *Chakrabarty*, and in reliance on that decision, the PTO's Board of Appeals and Interferences held that 35 U.S.C. 101 authorizes utility patent protection for sexually reproduced plants (specifically, corn varieties). *Ex parte Hibberd*, 227 U.S.P.Q. (BNA) 443 (1985). The Board deemed it established by *Chakrabarty* "that Section 101 includes man-made life forms, including plant life." *Id.* at 444. The Board further rejected the argument that Congress implicitly carved-out from the scope of Section 101 the subject matter covered by the PPA and PVPA. Again deeming this Court's analysis in *Chakrabarty* to be dispositive, the Board explained that neither the PPA nor the PVPA restricts or limits the scope of patentable subject matter under Section 101. *Id.* at 445. Nor, the Board held, did protecting plants under Section 101 create irreconcilable practical conflicts with the PPA or PVPA. *Id.* at 446-447.<sup>5</sup>

During the 16 years since *Hibberd*, the PTO has issued hundreds of utility patents protecting sexually reproduced plants under Section 101. As of April 2001, approximately 1800 utility patents included claims to plants, seeds, plant parts, or plant tissues. Approximately 1300 of those utility patents had an explicit claim to a plant seed.

3. Respondent in this case holds utility patents granted under Section 101 for sexually reproduced corn hybrids. Respondent filed suit against petitioners, alleging that they infringed utility patents covering 17 corn seed products by making, using, and selling or offering for sale seed corn of

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Department of Agriculture does not issue plant variety certificates for bacteria. See 7 U.S.C. 2401(a)(9) (defining "variety").

<sup>5</sup> In 1987, the PTO published a Notice in its *Official Gazette* stating that it "considers nonnaturally occurring non-human multicellular living organisms \* \* \* to be patentable subject matter within the scope of 35 U.S.C. 101." 1077 Off. Gaz. Pat. Office 24 (Apr. 21, 1987).

respondent's patented varieties. Petitioners are not authorized sales representatives of respondent. Pet. App. 14-15.

Petitioners asserted, among other defenses, the defense of patent invalidity. Petitioners also asserted a counterclaim seeking a declaratory judgment that all of the utility patents relied upon in respondent's complaint are invalid. Pet. App. 15-16. Petitioners moved for summary judgment on their counterclaim, arguing that patents directed to sexually reproduced plants are not patentable under Section 101, because Congress intended the PVPA to be the exclusive means of securing protection for sexually reproduced plants. *Id.* at 16.

The district court denied petitioners' motion for summary judgment and held that Section 101 authorizes the issuance of patents covering sexually reproduced plants. Pet. App. 13-39. Relying upon *Chakrabarty* as well as the plain language and legislative histories of Section 101, the PPA, and the PVPA, the district court concluded that the text of Section 101 authorizes the grant of patents covering plants, *id.* at 22, and that Congress's intention in adopting the PPA and PVPA was not to limit Section 101, but rather "to extend patent protection to an area [historically] not often able to meet the requirements" for protection under Section 101, *id.* at 29.

Although the district court recognized that the protection afforded by the PVPA differs somewhat from the protection available under Section 101, it held that there is no irreconcilable conflict between the two forms of protection. Pet. App. 30-34. The district court observed that if Congress perceived any inconsistency between utility patent protection and the PVPA, it could have intervened at any time after the PTO began issuing utility patents for plants in 1985. *Id.* at 36.

4. The court of appeals affirmed. Starting from the premise that "Congress plainly contemplated that [Section 101]

would be given wide scope,” Pet. App. 4 (quoting *Chakrabarty*, 447 U.S. at 308), the court of appeals found nothing in Section 101, the PPA, or the PVPA that narrows that broad scope by excluding plants from eligibility for protection, *id.* at 6-8. Nor did the court of appeals find any conflict between utility patent protection for sexually reproduced plants and certification of such plants under the PVPA. The court determined “that the asserted conflict [between the statutes] is simply the difference in the rights and obligations imposed,” not any difficulty in applying the two statutes simultaneously. *Id.* at 9.

### SUMMARY OF ARGUMENT

1. In *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), this Court held that patentable subject matter under 35 U.S.C. 101 “include[s] anything under the sun that is made by man.” 447 U.S. at 309. The *Chakrabarty* Court rejected the argument that the PPA and the PVPA demonstrate a congressional understanding that living things are not protectable under Section 101. Specifically addressing protection of sexually reproduced plants, the Court held that “[t]here is nothing in [the PVPA’s] language or history to suggest that” the law was enacted because Section 101 precluded patenting of living things. *Id.* at 313.

Petitioners urge the Court to overrule *Chakrabarty*’s construction of Section 101 and to revisit *Chakrabarty*’s reasoning concerning the relationship between Section 101 and the PVPA. Those aspects of *Chakrabarty*, however, are quintessentially deserving of repose. *Chakrabarty* involved statutory rather than constitutional construction, and Congress could have overridden this Court’s interpretation of Section 101 if it disagreed. In the two decades since *Chakrabarty*, plant breeders and genetic engineers have invested time and resources in reliance upon the availability of patent protection, and such protection has proved

workable in practice. Finally, petitioners' arguments for overruling *Chakrabarty* are not materially different from the arguments the Court rejected 21 years ago.

2. Congress has acquiesced, both implicitly and explicitly, in the patenting of sexually reproduced plants. Congress has not overruled *Chakrabarty*, even though legislators have acknowledged the PTO's practice of granting utility patents for sexually reproduced plants. In 1999, moreover, Congress added a new provision to Title 35 (35 U.S.C. 119(f) (Supp. V 1999)), which assumes the patentability of plants under Section 101.

3. Petitioners are incorrect in arguing that specific provisions of the PVPA are irreconcilable with utility patent protection for sexually reproduced plants. All of the expert bodies that have considered the relationship between the PVPA and Section 101—including the Senate Judiciary Committee, the PTO, the Department of Agriculture's Plant Variety Protection Office, and the United States Court of Appeals for the Federal Circuit—agree that both statutes can be applied to sexually reproduced plants without any necessary conflict between them. The PVPA and Section 101 simply provide *different* protection for such plants. In particular, the PVPA's authorization of non-infringing uses that would not be permissible uses of a patented plant (see, e.g., 7 U.S.C. 2543, 2544), does not show that patenting sexually reproduced plants defeats the purposes of the PVPA. The PVPA's defenses expressly apply only to infringement actions brought under the PVPA, not to actions under Section 101 or other competition-related statutes. Furthermore, the lesser degree of protection afforded to holders of plant variety certificates matches the lesser contribution to public knowledge that an inventor makes when applying for a plant certificate, as compared to a utility patent. As a general matter, moreover, there is no prohibition on protect-

ing qualifying inventions under more than one statutory scheme.

Petitioners’ objections to protecting new plant technologies under Section 101 ultimately reduce to the argument that Section 101 affords plant developers too much protection against those who wish to use the developers’ new technologies without paying for a license. That objection is for the legislature, not the courts, to address. Intellectual property protection rests upon the assumption that rewarding inventors benefits the public as well. That logic is as valid in the field of agriculture as it is in other areas of endeavor. If petitioners can show that Section 101 over-rewards plant developers for their novel and useful discoveries, then petitioners should take their evidence to Congress.

## ARGUMENT

### I. *STARE DECISIS* PRINCIPLES FORECLOSE PETITIONERS’ ARGUMENTS BASED UPON THE TEXT OF SECTION 101 AND THE LEGISLATIVE HISTORIES OF THE PPA AND THE PVPA

Petitioners contend (Br. 19-21, 27-43) that passage of the PPA and the PVPA confirmed a longstanding understanding that plants are outside the scope of patentable subject matter under Section 101. In particular, petitioners assert that “[t]he PVPA was enacted [in 1970] because sexually reproducing plant varieties and their seeds were not and had never been intended by Congress to be included within the classes of things patentable under Title 35.” Br. 42-43.

This Court rejected that very argument in *Diamond v. Chakrabarty*, 447 U.S. 303 (1980). Initially, the *Chakrabarty* Court held that Congress’s grant of patent authority in Section 101 is broad on its face. *Id.* at 308-310. Although “a new plant found in the wild is not patentable subject matter,” *id.* at 309, the Court explained that the subject

matter potentially patentable under Section 101 “include[s] anything under the sun that is made by man,” *ibid.* (quoting S. Rep. No. 1979, 82d Cong., 2d Sess. 5 (1952); H.R. Rep. No. 1923, 82d Cong., 2d Sess. 6 (1952)); accord *Diamond v. Diehr*, 450 U.S. 175, 182 (1981). Specifically, living things modified by man are within the scope of Section 101 because they qualify as either a “manufacture” or a “composition of matter” under the ordinary dictionary definitions of those terms. 447 U.S. at 308.

The *Chakrabarty* Court then rejected the argument that Congress’s enactment of the PPA and the PVPA reflected an understanding that plants could never be patented under Section 101. 447 U.S. at 310-314. The Court explained that plants historically were thought ineligible for utility patent protection, not as a matter of law, but as a matter of practice, because (1) plants were products of nature rather than of man and (2) they could not be described with sufficient precision to satisfy the “written description” requirement of the general patent law, see 35 U.S.C. 112. 447 U.S. at 311-312. Congress dispelled the former concern and specifically addressed the latter when, in 1930, it drafted the PPA’s special provisions for patenting asexually reproduced plants. *Id.* at 312-313. The Court noted in *Chakrabarty* that when Congress enacted the PPA, “[n]o Committee or Member of Congress \* \* \* expressed the broader view, now urged by the petitioner, that the terms ‘manufacture’ or ‘composition of matter’ exclude living things.” *Id.* at 312.

The Court further held that passage of the PVPA in 1970 did not suggest that utility patents are unavailable for living things. Sexually reproduced plants, the Court determined, were not made patentable under the PPA because it was not possible in 1930 to produce plants with consistent genetic qualities through seed. 447 U.S. at 313. When sexual reproduction of uniform and stable plant varieties became possible, Congress enacted the PVPA as an analog to the PPA.

See *id.* at 311-312, 313; 7 U.S.C. 2402(a) (1994 & Supp. V 1999). “There is nothing in [the PVPA’s] language or history,” the Court concluded, “to suggest that it was enacted because § 101 did not include living things.” 447 U.S. at 313.

The four dissenting Justices in *Chakrabarty* particularly disagreed with the Court’s analysis of the PPA and the PVPA. 447 U.S. at 319-321 (Brennan, J., dissenting). The dissenting Justices viewed the PPA and PVPA as “dispositive” (*id.* at 319 n.2), because if plants were within the scope of Section 101, they “could have been patented without new legislation” (*id.* at 320). Those Justices read the legislative history of the PPA and PVPA as indicating that Congress intended to realize “benefits \* \* \* from extending patent protection to plants” that were “previously unavailable” because plants were outside the scope of patentable subject matter under Section 101. *Ibid.*

Petitioners challenge (Br. 28-31) *Chakrabarty*’s holding (reaffirmed in *Diamond v. Diehr*, 450 U.S. at 182) that patentable subject matter under Section 101 “include[s] anything under the sun that is made by man.” 447 U.S. at 309. According to petitioners, this Court’s interpretation of Section 101 rests on “a snippet of a sentence from the legislative history” (Br. 30-31) that is taken out of context. Repeating another argument made and rejected in *Chakrabarty*, petitioners also maintain (Br. 19) that “there would have been no reason for Congress to have passed the 1930 PPA” if plants were already patentable under Section 101.<sup>6</sup> Relatedly, peti-

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<sup>6</sup> The government argued as petitioner in *Chakrabarty* that enactment of the PVPA in 1970 “enlarged the class of protectable living things by authorizing patent-type protection for new types of sexually reproduced plants,” and that the PVPA “would be redundant” if Congress had thought that sexually reproduced plants already were protectable under Section 101. See Brief for the Petitioner (*Chakrabarty* Pet. Br.), No. 79-136, at 22. The government cited extensive legislative history in support of the view that Section 101, the PPA, and the PVPA all provide non-

tioners suggest (Br. 33-37) that, under *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), the mere fact that Congress established a special regime to protect sexually reproduced plants is sufficient grounds to deem utility patent protection unavailable. That argument is just a variation of the argument, rejected in *Chakrabarty*, that Congress’s enactment of plant-specific laws showed that Congress deemed such laws necessary to fill gaps in the Patent Act. See 447 U.S. at 311; see also note 10, *infra*.

This Court should not revisit the holdings of *Chakrabarty*. Indeed, traditional principles of *stare decisis* weigh powerfully against the reconsideration of *Chakrabarty* that petitioners urge.

First, *stare decisis* has “special force” where, as here, a statutory construction is involved. *Patterson v. McLean Credit Union*, 491 U.S. 164, 172 (1989). When only the interpretation of a congressional enactment is at issue, Congress can correct, through further legislation, any perceived error in the Court’s decisions. *Id.* at 172-173; *Illinois Brick Co. v. Illinois*, 431 U.S. 720, 736 (1977). If Congress has not acted to override this Court’s understanding of a statute, changing the Court’s interpretation threatens to usurp congressional authority and to discourage Congress from fulfilling its assigned constitutional role. See *Neal v. United States*, 516 U.S. 284, 296 (1996) (“Were we to alter our statutory interpretations from case to case, Congress would have less reason to exercise its responsibility to correct statutes that are thought to be unwise or unfair.”).<sup>7</sup>

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overlapping protection—the very same legislative history on which petitioners now rely. Compare *id.* at 24 (quoting Senate Report on PPA) with Pet. Br. 38 (quoting same passage); and compare *Chakrabarty* Pet. Br. 28 (quoting House Report on PVPA and citing Senate Report) with Pet. Br. 40 (quoting same passages of House and Senate Reports).

<sup>7</sup> The principle of deference to congressional legislation is not tempered in this case by the common-law tradition. Cf. *State Oil Co. v. Khan*,

Congress has had 21 years to consider the implications of *Chakrabarty* and, if it disagreed with the Court, to make a legislative response. Sixteen years have passed since the PTO, relying upon *Chakrabarty*, approved utility patents for sexually reproduced corn varieties. Congress has never expressed disagreement with those decisions. To the contrary, Congress recently expressed its understanding that sexually reproduced plants are patentable under Section 101. See Point II, *infra*. The Court should accord “weight to [Congress’s] continued acceptance of” *Chakrabarty*. *Hilton v. South Carolina Pub. Rys. Comm’n*, 502 U.S. 197, 202 (1991).

*Second*, the agriculture industry’s reliance upon the availability and enforceability of utility patents for sexually reproduced plants makes this a “classic case” for adherence to the earlier decision. *Planned Parenthood v. Casey*, 505 U.S. 833, 855 (1992). Because financial reliance is generally inherent in developing an invention and securing a patent, Congress has been particularly concerned with “doctrinal stability in the field of patent law.” *Panduit Corp. v. All States Plastic Mfg. Co.*, 744 F.2d 1564, 1573 (Fed. Cir. 1984) (quoting S. Rep. No. 275, 97th Cong., 1st Sess. 5 (1982)). For example, Congress consolidated appeals of cases involving patent claims in the Federal Circuit specifically to address the “significant problem” of uncertainty in judicial precedent. *Id.* at 1574 (quoting S. Rep. No. 275, *supra*, at 5).

As Congress and the Department of Agriculture have found, “[t]he development of new plant varieties is arduous, time-consuming, and costly. Many years must be spent in the development of a single new variety, with no guarantee

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522 U.S. 3, 20-21 (1997). Section 101 is to be read strictly in accordance with its broad terms, without “limitations and conditions which the legislature has not expressed.” *Chakrabarty*, 447 U.S. at 308 (quoting *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 199 (1933)).

of its success or profit.” H.R. Rep. No. 699, 103d Cong., 2d Sess. 9, 18 (1994) (House Agriculture Committee Report on PVPA amendments, quoting Department of Agriculture testimony). On a daily basis for at least 16 years, plant breeders have engaged in “advance planning of great precision” with the assumption that utility patent protection would be available for qualifying plant inventions. *Casey*, 505 U.S. at 856. Likewise, genetic engineers have undertaken the painstaking work of inserting new genes into plants and recombining plant genes, to give the resulting transgenic plants new and improved properties.<sup>8</sup> Plant breeders and genetic engineers have made large investments in the intellectual property that is protected by their utility patents.<sup>9</sup> Given the magnitude of the industry’s reliance upon the current regime that allows protection under Section 101 as well as under the PPA and the PVPA, and given Congress’s special concern for stability in interpreting patent law, this Court should be particularly hesitant to revisit *Chakrabarty*’s analysis. See *Payne v. Tennessee*, 501 U.S. 808, 828 (1991) (“Considerations in favor of *stare decisis* are at their acme in cases involving property and contract rights, where reliance interests are involved.”).

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<sup>8</sup> More than 1600 utility patents claim transgenic plant technology, including claims to plants, seeds, and plant tissues. Genetically engineered plants are often protected most effectively under Section 101, rather than under the PPA or the PVPA, because the invention typically involves more than one plant variety, and may relate to a whole species. See p. 23, *infra*.

<sup>9</sup> In 1992, the agriculture industry in the United States spent \$400 million on research and development associated with plant breeding, as compared to \$97 million in 1980. Economic Research Serv., U.S. Dep’t of Agric., *Agricultural Research and Development: Public and Private Investments Under Alternative Markets and Institutions* (Agricultural Economic Report No. 735) 37, Table 10 (1996) (available at <<http://www.ers.usda.gov/publications/aer735/>>).

*Third*, there is no indication that granting both utility patent protection under Section 101 and certification under the PVPA “has proven to be intolerable simply in defying practical workability.” *Casey*, 505 U.S. at 854. Petitioners argue (Br. 22-24, 43-46) that the utility patent and PVPA regimes “conflict[]” in certain details. We explain below that those asserted conflicts do not exist. See Point III, *infra*. The important point for present purposes, however, is that utility patent protection and PVPA certification indisputably are coexisting in practice. Petitioners acknowledge (Br. 5) that the subjects of some of the utility patents at issue in this very case are also the subjects of plant variety certificates. In light of the practical reality that, for more than 15 years, plant inventions protected under the PVPA have been patentable under Section 101 if they meet the requirements of Title 35, by now there would be ample evidence that simultaneous protection produces “intolerable” conflicts between the statutes—if that were the case.

*Fourth*, there has been no material change in the facts surrounding Section 101 and the PVPA since *Chakrabarty*, see *Casey*, 505 U.S. at 854-855, nor even a change in the evidence of contemporaneous congressional intent being put before the Court, see *NLRB v. International Longshoremen’s Association*, 473 U.S. 61, 84 (1985). See also note 6, *supra*. Petitioners’ arguments were not found persuasive when put forward in *Chakrabarty*, and, having been rejected two decades ago, they should be far less persuasive today.

In light of those considerations, the inquiry in this case should be whether there is “some special reason,” aside from arguments about the correctness of *Chakrabarty*, for reopening the Court’s constructions of Section 101 and the PVPA. *Casey*, 505 U.S. at 864. No such special reason exists.

## II. CONGRESSIONAL ACTION SINCE *CHAKRABARTY* AND *HIBBERD* CONFIRMS THAT SEXUALLY REPRODUCED PLANTS ARE PATENTABLE UNDER SECTION 101

Petitioners contend (Br. 24-26) that, apart from whether Congress intended to preclude utility patent protection for plants when it enacted the PVPA in 1970, later Congresses have understood that the PVPA's protection is exclusive of patent protection under Section 101. Legislative developments since *Chakrabarty* and *Ex parte Hibberd*, 227 U.S.P.Q. (BNA) 443 (Bd. Pat. App. & Interf. 1985), however, disprove petitioners' view.

The most conspicuous fact about Congress's reaction to *Chakrabarty* and *Hibberd* is that Congress has not stopped the PTO from issuing utility patents for sexually reproduced plants under Section 101. Cf. *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723, 733 (1975) ("Congress's failure to reject [a judicial construction of the Securities and Exchange Act] argues significantly in favor of acceptance of [the lower courts' construction] by this Court."); *Blau v. Lehman*, 368 U.S. 403, 412-413 & n.13 (1962) (same). That failure to act is especially significant because Congress has amended the PVPA and the Patent Act in other respects since *Hibberd*, and therefore had repeated opportunities to override the PTO's application of Section 101 if it disagreed. Yet, during the late 1980s and early 1990s, legislators addressed related questions under the patent laws without suggesting that Congress should override *Hibberd*.

In 1988, the PTO's issuance of the first patent for a transgenic animal (the "Harvard mouse") prompted congressional interest in *Chakrabarty*. Soon thereafter, several bills (none of which became law) were introduced to address the issuance of patents on animals and humans. For example, the Transgenic Animal Patent Reform Act (H.R. 4970),

which the House approved during the 100th Congress, addressed farm uses of patented animals, and would have prohibited the patenting of human beings, but it would not have placed any restriction on the patentability of plants. See 134 Cong. Rec. 23,564, 23,565-23,566 (1988).

During the 101st Congress, Senator Hatfield introduced legislation that would have imposed a moratorium on patenting animal life. In so doing, he criticized the PTO's application of *Chakrabarty* to that technology. 136 Cong. Rec. 2564, 2565 (1990). Senator Hatfield, however, stressed that his bill was "not an attempt to halt the promising field of genetic engineering," and that "[t]he various techniques of biotechnology \* \* \* when used responsibly, have enormous potential in a number of areas including \* \* \* agricultural products." *Id.* at 2564. Senator Hatfield thus sought "to rescind" PTO precedent that allowed the patenting of genetically engineered animals (*id.* at 2565), without affecting PTO precedent that allowed the patenting of sexually reproduced plants. Representative Cardin, who introduced Senator Hatfield's bill in the 102d Congress, made an almost identical statement regarding his legislation. 138 Cong. Rec. 9590 (1992). Thus, at a time when members of Congress were actively considering the PTO's patenting of living things and its implementation of *Chakrabarty*, there was no movement to stop the PTO from issuing patents for sexually reproduced plants.

During the 104th Congress, Senator Kerrey went one step further when he introduced a set of proposed amendments to the PVPA. In his explanation of the proposed amendments, Senator Kerrey explicitly noted that "[b]oth asexually and sexually-reproduced plants which have been developed by traditional breeding, genetic engineering, tissue culture, and various other methods have received utility patents." 139 Cong. Rec. 19,979, 19,980 (1993). There is no evidence of legislative disagreement with that practice.

In 1999, Congress acquiesced affirmatively in *Chakrabarty* and *Hibberd*. That year, Congress amended 35 U.S.C. 119 to enable utility patent applicants in the United States to obtain a right of priority retroactively, back to the date on which they filed a plant breeder's rights application in a qualifying foreign country. Pub. L. No. 106-113, Tit. II, Div. B, § 1000(a)(9), 113 Stat. 1536. New Section 119(f) of Title 35 provides:

Applications for plant breeder's rights filed in a [World Trade Organization (WTO)] member country (or in a foreign [International Convention for the Protection of New Varieties of Plants (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.

35 U.S.C. 119(f) (Supp. V 1999).

The language of Section 119(f), as part of the general provisions of Title 35 rather than the PPA (35 U.S.C. 161-164 (1994 & Supp. V 1999)), suggests recognition that plants are patentable under Section 101. And if there were any doubt on that score, it is resolved by the Conference Report that accompanied new Section 119(f). See H.R. Rep. No. 464, 106th Cong., 1st Sess. 145-146 (1999). The Conference Report explains that under Section 119 as it stood before the amendment, plant breeders who had secured intellectual property protection in countries that "provide only a sui generis system of protection for plant varieties," and do not issue patents or inventor's certificates for plants, could not obtain priority rights in the United States based upon their foreign filings. *Ibid.* Under new Section 119(f), applicants could "base a priority claim on a foreign application for a plant breeder's right [that is not a patent or an inventor's

certificate] when seeking plant patent *or utility patent protection* for a plant variety in this country.” *Id.* at 146 (emphasis added). As of 1999, therefore, Congress clearly understood and accepted that utility patents are available for plant varieties under Section 101.

In an effort to show that recent Congresses have not deemed sexually reproduced plants patentable, petitioners cite (Br. 25-26) a 1998 amendment to 35 U.S.C. 163, which addressed the enforcement of plant patents against the unauthorized use, sale, and importation of plant parts. See Plant Patent Amendments Act of 1998, Pub. L. No. 105-289, § 3, 112 Stat. 2781. Petitioners argue that “[t]here was no [similar] amendment to § 101 because none was needed since § 101 does not afford protection to plant varieties.” Br. 25-26. Petitioners are right that no amendment to the general provisions of the Patent Act was needed, but that was so for a different reason. Congress’s statement of Findings and Purposes in Public Law No. 105-289, § 2, 112 Stat. 2780, explains that holders of plant patents under the PPA were losing royalties due to the sale of plant parts from illegally reproduced and imported plants, and that the amendment to Section 163 was needed to protect against such unauthorized sales. The 1998 amendment therefore closed, for plant patents, a loophole that Congress had closed four years earlier for utility patents. As amended in 1994, 35 U.S.C. 271(c) provides:

Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of

commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

The Uruguay Round Agreements Act, Public Law No. 103-465, Tit. V, § 533(a)(2), 108 Stat. 4989, substituted, in the first lines of the above paragraph, the phrase “offers to sell or sells within the United States or imports into the United States” for the word “sells.” See 35 U.S.C. 271 note (“Amendment of Section”). Having amended the general provisions of the Patent Act in 1994 to address infringing imports, Congress had no need to make any further amendment to protect utility patent holders against infringing imported plant parts.

### **III. GRANTING UTILITY PATENTS FOR SEXUALLY REPRODUCED PLANTS UNDER SECTION 101 DOES NOT CONFLICT WITH THE PVPA**

Petitioners also argue (Br. 22-24, 43-46) that Congress *must* have meant to narrow the scope of patentable subject matter under Section 101 when it enacted the PVPA, because the terms and conditions under which plant breeders hold plant variety certificates are inconsistent with the terms and conditions surrounding utility patents. That argument for narrowing the construction of Section 101 that this Court announced in *Chakrabarty* must overcome a very high hurdle. “[I]t is a ‘cardinal rule’” that repeals by implication are disfavored. *County of Yakima v. Confederated Tribes & Bands of the Yakima Nation*, 502 U.S. 251, 262 (1992) (quoting *Posadas v. National City Bank*, 296 U.S. 497, 503 (1936)); see *Matsushita Elec. Indus. Co. v. Epstein*, 516 U.S. 367, 381 (1996) (noting that “[t]he rarity with which [the Court] ha[s] discovered implied repeals is due to the relatively stringent standard for such findings”). For there to be an implied repeal, it must be impossible for the statutes to coexist. *Radzanower v. Touche Ross & Co.*, 426 U.S. 148, 153-157 (1976). “There must be a positive repugnancy

between the provisions of the new law, and those of the old; and even then the old law is repealed by implication only *pro tanto* to the extent of the repugnancy.” *United States v. Borden Co.*, 308 U.S. 188, 198-199 (1939) (internal quotation marks omitted).<sup>10</sup>

All of the expert bodies that have considered the issue have found that the PVPA and Section 101 can coexist. The Senate Judiciary Committee, when it considered the proposed PVPA, did not believe that the bill limited the scope of patentability under the Patent Act. S. Rep. No. 1246, 91st Cong., 2d Sess. 3 (1970) (PVPA “does not alter protection currently available within the patent system”). The PTO, which is charged with administering Section 101 as well as the plant-specific provisions of the PPA, similarly found in *Hibberd* that the PVPA and Section 101 do not conflict. 227 U.S.P.Q. (BNA) at 446-447. The Department of Agriculture’s Plant Variety Protection Office has found that the availability of utility patent protection for sexually reproduced plants does not impair its administration of the PVPA. Finally, the Federal Circuit, which has exclusive jurisdiction over both patent claims and claims under the PVPA (see 28 U.S.C. 1295(a), 1338 (1994 & Supp. 1999)),

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<sup>10</sup> *Brown & Williamson*, on which petitioners heavily rely (Br. 33-37), is entirely consistent with this Court’s strong presumption against implied repeal of established statutory provisions. The Court determined in *Brown & Williamson*, 529 U.S. at 137-139, 155-158, that regulation of tobacco products under the general provisions of the Food, Drug, and Cosmetic Act (FDCA) was “incompatible with” later-enacted federal statutes that specifically addressed tobacco, *id.* at 156. In particular, the FDCA, if applicable, would have required the FDA to ban cigarettes and smokeless tobacco, which was “foreclosed” by the tobacco-specific laws. *Id.* at 137. As explained below, there is no such repugnance between the PVPA and Section 101 when both are applied to sexually reproduced plants. Moreover, as shown in Point II, above, Congress has affirmatively acquiesced in the patenting of sexually reproduced plants. There was no such acquiescence to regulation of tobacco under the FDCA.

found in this case that there is no irreconcilable inconsistency between plant certification and utility patent coverage for man-made plants. Pet. App. 8-9. That common conclusion by the Senate committee that oversees patent law; by the two agencies charged with administering the laws under which plants are protected; and by the court with “special expertise” in patent matters (*Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40 (1997)), is correct. Although the terms of protection under Section 101 and the PVPA differ, they do not conflict. Cf. *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858, 863-865 (Fed. Cir.) (rejecting argument that amendments to FDCA created implied defense to patent infringement), cert. denied, 469 U.S. 856 (1984).

As an initial matter, the scope of certification under the PVPA is narrower than the scope of patentability available for sexually reproduced plant technologies under Section 101. Whereas the PVPA allows protection only for particular plant varieties, Section 101 allows patent protection for an invention that subsumes multiple sexually reproduced plant varieties. For example, when all varieties of cotton plants can be altered for better pest-resistance by adding a new gene, the inventor of the altered cotton can receive a single utility patent covering all the new varieties. See U.S. Patent No. 5,608,142 (Mar. 4, 1997). That kind of blanket protection for multiple varieties is not available under the PVPA.

Even with respect to their common subject matter, Section 101 and the PVPA establish distinct criteria for protection. As a general rule, a plant certificate under the PVPA is easier to obtain than a utility patent (just as Congress intended when it enacted the PVPA, see *Chakrabarty*, 447 U.S. at 311-313). In addition to easing the “written description requirement” discussed in *Chakrabarty* (see 447 U.S. at 312), Congress made plant variety certification

available under 7 U.S.C. 2402 (1994 & Supp. V 1999) even if the new variety does not meet the usefulness and non-obviousness requirements of the Patent Act, 35 U.S.C. 101-103 (1994 & Supp. V 1999). A plant certified under the PVPA also is not required to undergo the extensive examination required for a utility patent. See 35 U.S.C. 131 (1994 & Supp. V 1999); 35 U.S.C. 132.

Although typically harder to obtain, a utility patent generally affords greater protection to its holder than a plant variety certificate. For example, as petitioners stress (Br. 22, 43-44), the PVPA establishes some defenses to infringement, especially 7 U.S.C. 2543 (farmer's right to save and replant seed) and 7 U.S.C. 2544 (use of a protected variety for breeding and research), that would not be a defense to infringement of a utility patent.<sup>11</sup> The differences in defenses do not make it impossible to apply both statutes to asexually reproduced plants, however. Even if the same seed were protected under both Section 101 and the PVPA, it would simply be the case that saving the seed or using the seed in breeding or research would infringe the utility patent, but not the plant certificate. There is no inconsistency between finding infringement of a utility patent and the defenses enumerated in the PVPA, for the PVPA defenses do not grant any affirmative right to save protected seed or to use seed or use a protected plant variety for breeding and research. The PVPA provides only that those uses are not infringements *of the protections afforded under the PVPA*. 7 U.S.C. 2543, 2544.

Furthermore, the stronger protection against infringement afforded to a utility-patent holder is harmonious with the utility-patent holder's obligation to make an "enabling disclosure" that tells the public how to make and use the

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<sup>11</sup> The defenses to a patent infringement suit are set forth in 35 U.S.C. 282 (1994 & Supp. V 1999).

invention after the patent term expires. See 35 U.S.C. 112; see also 35 U.S.C. 114 (1994 & Supp. V 1999) (PTO may require specimens for inspection or experiment). The inventor's disclosure required by the Patent Act is "the *quid pro quo* of the right to exclude." *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 484 (1974). Applicants for plant variety certificates need not provide similar disclosure. See 7 U.S.C. 2422; see also *Chakrabarty*, 447 U.S. at 312 (discussing relaxed written description requirement of PPA).<sup>12</sup> Because certificate holders under the PVPA are not required to make the same level of contribution to the public that patent holders must make, Congress reasonably determined that certificate holders' rights to exclude others from using their inventions should be less absolute during the term of the certificate than the rights of patent holders under Section 101.

Petitioners err in asserting (Br. 44-47) that the possibility of liability under both the Patent Act and the PVPA for the same infringing act makes the two statutes inherently re-

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<sup>12</sup> The PVPA requires a description of the plant, along with a deposit of seed in a public depository. 7 U.S.C. 2422(2) and (4); see 7 C.F.R. 97.6. The deposited seed is used to meet the needs of the Plant Variety Protection Office and to ensure the long-term availability of germ plasm for research. The seed is not available to the general public during the term of the PVPA certificate. Seeds deposited in conjunction with a utility patent, by contrast, are immediately in the public domain, although no infringing use may be made of them until the patent term expires. See 37 C.F.R. 1.801-1.809 (rules for disclosure of biotechnology inventions through deposits); see generally *Ajinimoto Co. v. Archer-Daniels-Midland Co.*, 228 F.3d 1338, 1345-1346 (Fed. Cir. 2000) (discussing enabling disclosure through deposit), cert. denied, 121 S. Ct. 1957 (2001). Petitioners therefore are incorrect in suggesting (Br. 29-30 n.10) that respondent has made a less complete disclosure of its patented inventions than would have been required under the PVPA. See also 2 J.A. 39 (noting seed deposits for U.S. Patent No. 5,491,295), 2 J.A. 50 (noting deposits for U.S. Patent No. 5,506,367).

pugnant. There is no general prohibition on “dual protection” (Pet. Br. 44) of an innovation. See, e.g., *Mazer v. Stein*, 347 U.S. 201, 216-219 (1954) (holding that a manufacturer’s design patent is not a bar to a copyright infringement suit). The PTO’s *Manual of Patent Examining Procedure* (7th ed. 1st rev. Feb. 2000) explains, for example, that “[t]here is an area of overlap between copyright and design patent statutes” (*id.* § 1512(I)); that “[a] design patent and a trademark may be obtained on the same subject matter” (*id.* § 1512(III)); and that “[i]nventions claimed under 35 U.S.C. 101 may include the same asexually reproduced plant which is claimed under [the PPA]” (*id.* § 1601). Dual grounds for recovery, moreover, work no unfairness on the infringer because the plaintiff can recover damages only once. See, e.g., *American Safety Table Co. v. Schreiber*, 415 F.2d 373, 381-382 (2d Cir. 1969) (bar against double recovery precludes damages for both patent infringement and unfair competition during patent infringement period), cert. denied, 396 U.S. 1038 (1970); see also *Protectors Ins. Serv., Inc. v. United States Fid. & Guar. Co.*, 132 F.3d 612, 615-618 (10th Cir. 1998) (in contract case, applying prohibition on double recovery for a single economic injury).<sup>13</sup>

*Ropat Corp. v. McGraw-Edison Co.*, 535 F.2d 378 (7th Cir. 1976), and *TrafFix Devices, Inc. v. Marketing Displays, Inc.*,

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<sup>13</sup> Petitioners suggest (Br. 21) that 7 U.S.C. 2541(a)(9), which protects the holder of a plant patent from an infringement suit based on asexual reproduction that is brought by the holder of a plant variety certificate, shows that Congress did not intend dual protection under Section 101 and the PVPA. Section 2541(a)(9), however, does not address dual protection for sexually reproduced varieties. It indicates only that one person can have a plant variety certificate on a sexually reproduced plant under the PVPA, and another person can have a plant patent on the same plant, asexually reproduced, under the PPA. Section 2541(a)(9) therefore undercuts, rather than supports, petitioners’ argument that the various forms of intellectual property protection are mutually exclusive.

121 S. Ct. 1255 (2001), do not support petitioners’ theory that protection under both Section 101 and the PVPA is improper. See Pet. Br. 45-47. In *Ropat*, the Seventh Circuit applied the principle that the holder of a utility patent under Title 35 should not be permitted to extend the term of that patent by obtaining a design patent under Title 35 for the very same invention. See 535 F.2d at 380. *Ropat* did not address simultaneous protection of the same innovation under different statutory schemes.

In *TrafFix*, this Court held that an expired utility patent was “strong evidence” of functionality, which tended to undermine a claim that the same essential feature (a spring design for road signs) was eligible for trade dress protection under the Lanham Act, 15 U.S.C. 1125(a)(3) (Supp. V 1999). 121 S. Ct. at 1260-1261. *TrafFix* involved the “evidentiary significance” of a patent issued under Section 101. *Id.* at 1261. It did not present the question of whether simultaneous protection under different intellectual property statutes is permissible for innovations that meet the requirements of each statute. Indeed, having found the claimed feature to be functional and therefore ineligible for trade dress protection under the Lanham Act, the Court specifically declined in *TrafFix* to address the argument that in any event the holder of an expired utility patent could not, consistent with the Patent Clause, U.S. Const. Art. I, § 8, Cl. 8, subsequently claim trade dress protection that would have the practical effect of extending the patent. 121 S. Ct. at 1263.

At bottom, petitioners’ objections to patenting sexually reproduced plant innovations rest on the policy argument that utility patents afford too much protection to plant developers, at the expense of farmers and others who wish to use these new varieties without paying for that right during the patent term. See Pet. Br. 48-49; see also American Corn Growers Ass’n Br. 13-30. Petitioners object that the agriculture industry suffers when its members must

consider “the risk of becoming embroiled in a patent infringement lawsuit” (Br. 49), but a similar argument could be made against *any* application of intellectual property laws, including application of the PPA or the certification provisions of the PVPA.

As the government noted in *Chakrabarty*, the proper balance to be struck in the area of patenting living things “is far from clear.” 79-136 Reply Br. for Pet. at 5. What is clear, however, is that such questions are for Congress to answer. And there is no reason to doubt that Congress could sensibly have decided that allowing utility patent protection for qualifying innovations in sexually reproduced plant varieties best serves the public interest. As this Court has explained, rewarding patent holders for their enterprise is only “a secondary consideration” in affording patent protection. *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948). “The economic philosophy” underlying patent protection “is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of \* \* \* inventors.” *Mazer*, 347 U.S. at 219. It follows that users of innovations will bear some cost for that right during the term of protection.

The utility patents at issue in this case suggest readily identifiable benefits to farmers, for which some farmers may be willing to pay. One of the corn lines protected by respondent’s utility patents, for example, is said to have a superior yield (2 J.A. 29-30), while another is said to have good drought tolerance and disease tolerance (2 J.A. 44). As a result of respondent’s seed deposits, those lines will be available to the general public for at least 30 years, and longer if there is ongoing demand for access to the seed. See 37 C.F.R. 1.806.

When plant researchers undertake an innovation in reliance upon the availability of patent protection, benefits accrue to the general public—not just to “large corporate

entities,” as petitioners suggest (Pet. Br. 49). For example, patented plants have been genetically engineered to resist pests so that farmers can bring their crop to harvest with a greater yield and with less use of pesticides (thus lowering the cost of producing food and addressing pollution concerns). See U.S. Patent No. 5,763,245 (June 9, 1998). Other engineered plants work as “edible vaccines,” so that humans or animals could be vaccinated by eating, say, a potato. See U.S. Patent No. 6,034,298 (Mar. 7, 2000).

Dr. Chakrabarty’s bacterium was eligible for a patent because it had been genetically engineered by human intervention to digest crude oil and clean up pollution. See 447 U.S. at 305. The PTO has issued utility patents for genetically engineered plants that meet the same social need. One patented process produces plants that resist and reduce mercury and metal contamination in the soil. See U.S. Patent No. 5,668,294 (Sept. 16, 1997). Another produces plants that detoxify herbicides and other organic compounds. See U.S. Patent No. 6,166,290 (Dec. 26, 2000). The new field of phytoremediation, which includes such innovations, is precisely the kind of “unforeseeable” development that the Court in *Chakrabarty* anticipated when it emphasized Congress’s decision to give the scope of patentable innovations under Section 101 comprehensive breadth. 447 U.S. at 316. Petitioners have failed to show any clear instruction from Congress to deny such plant innovations, if they otherwise meet the requirements of Section 101, the same protection afforded to the comparable bacterial innovations in *Chakrabarty*.

# CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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