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**GENETICALLY ENGINEERED CROPS,
IT'S WHAT'S FOR DINNER:
*MONSANTO CO. V. GEERTSON SEED FARMS***

*Noreen Guregian**

I. INTRODUCTION

Since the dawn of agriculture, humans have grown different varieties of the same crops while still maintaining varietal purity. A stroll down the aisles of any supermarket in America illustrates that today's farmers can grow an array of distinct crop varieties despite the potential for cross-pollination¹ among different crops. Farmers successfully grow sweet corn despite its ability to cross-pollinate with field corn and popcorn, and green cabbage despite its compatibility with red cabbage as well as varieties of onions, radishes, and beets.

Alfalfa is the fourth most widely grown crop in the United States and is grown on over twenty million acres of land.² A member of the legume family, alfalfa is an important crop for livestock feed and for commercial seed production.³ In recent decades, genetically

* J.D. 2011, Loyola Law School Los Angeles; B.S., Business Administration, 2008, University of Southern California, Marshall School of Business. I would like to extend thanks to Elena DeCoste Grieco, for her guidance, support, and encouragement. I would also like to thank the *Loyola of Los Angeles Law Review* for their work on this Comment. Most importantly, I want to thank my parents, who never let me forget the importance of hard work and a great education.

1. Pollination is the process by which pollen is transferred in plants, thereby enabling fertilization and sexual reproduction. Cross-pollination occurs when pollen is delivered to a flower from a different plant. *Pollination*, ENCYCLOPÆDIA BRITANNICA, <http://www.britannica.com/EBchecked/topic/467948/pollination#> (last visited Feb. 27, 2011).

2. Brief of American Farm Bureau Federation et. al. as Amici Curiae Supporting Petitioners at 14, *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743 (2010) (No. 09-475) [hereinafter Brief of American Farm Bureau]. Alfalfa—known as the “Queen of the Forages”—is one of the oldest cultivated plants in recorded history and is today the most cultivated legume in the world. THE ENCYCLOPEDIA OF SEEDS, SCIENCE, TECHNOLOGY AND USES 8 (Michael Black et al. eds., 2006).

3. See Petition for a Writ of Certiorari at 3, *Monsanto*, 130 S. Ct. 2743 (No. 09-475). Ninety-nine percent of alfalfa is grown to produce hay, which is used primarily as feed for livestock. *Id.*

engineered (GE) alfalfa has become a mainstay of American agriculture because of its enormous benefits, including higher yields, resistance to diseases and insects, compatibility with low-toxicity pesticides, and minimal farm-operating costs, as well as increased farm income.⁴ The concern of some alfalfa farmers—both conventional and organic growers—is that open pollination⁵ makes plants susceptible to pollination by nearby GE alfalfa plants.

In *Monsanto Co. v. Geertson Seed Farms*,⁶ respondent Geertson Seed Farms (“Geertson”) unsuccessfully challenged, under the National Environmental Policy Act of 1969 (NEPA), the federal government’s approval procedures for the planting and sale of a GE alfalfa variety known as Roundup Ready Alfalfa (RRA).⁷ Before the district court’s judgment, farmers had planted RRA for twenty-one months without any judicially or legislatively imposed restrictions.⁸ The *Monsanto* decision also affects injunctions in a novel way. It significantly increases the burden on plaintiffs when they seek injunctive relief and sets in stone the “traditional” four-part injunctive relief test briefly thought to apply only to patent cases.

This Comment evaluates the U.S. Supreme Court’s recent decision in *Monsanto*, in which the Court deemed that it was excessive to partially deregulate and prohibit altered-alfalfa planting pending completion of a detailed environmental review.⁹ Part II discusses the procedural history and facts. Part III examines the Supreme Court’s decision to overturn the injunction preventing Geertson from planting a GE alfalfa crop. Part IV provides a brief synopsis of the regulatory structure of GE agriculture and explores recent cases concerning GE agriculture. Part V critiques the Supreme Court’s decision with regards to GE agricultural developments and

4. See Brief of American Farm Bureau, *supra* note 2, at 17–19. As of 2010, farmers had planted GE varieties on 93 percent of soybean, 86 percent of corn, and 93 percent of cotton acres grown in the United States. *Adoption of Genetically Engineered Crops in the U.S.: Extent of Adoption*, U.S. DEP’T OF AGRIC. ECON. RESEARCH SERV. (July 1, 2010), <http://ers.usda.gov/Data/BiotechCrops/adoption.htm>.

5. Open pollination typically occurs from plants grown to produce commercial seed that must be allowed to bloom. *Monsanto v. Geertson Seed Farms: The Supreme Court Alfalfa Decision*, COOKING UP STORY (June 28, 2010), <http://cookingupastory.com/Monsanto-v-geertson-seed-farms-the-supreme-court-alfalfa-decision>.

6. 130 S. Ct. 2743.

7. *Id.* at 2746.

8. *Id.* at 2751.

9. *Id.* at 2761–62.

injunctions. Lastly, Part VI considers the potential significance of this case as to both the standards for injunctive relief and on future developments in GE agriculture.

II. STATEMENT OF THE CASE

Under a provision of the Plant Protection Act,¹⁰ the U.S. Department of Agriculture has authority “to prevent the introduction of plant pests into the United States.”¹¹ The Department of Agriculture has delegated rule-making power under this provision to one of its divisions, the Animal and Plant Health Inspection Service (APHIS).¹² APHIS’s regulations presume that GE plants are pests unless it determines otherwise.¹³ This decision is made in compliance with NEPA, which requires federal agencies to prepare an environmental impact statement (EIS) to the fullest extent possible¹⁴ unless the agency produces an environmental assessment determining that the deregulation will not have a “significant impact on the environment.”¹⁵ An environmental assessment provides information concerning “the context and intensity of effects that may ‘significantly’ affect the quality of the human environment” and considers ways to alter the action to reduce such effects.¹⁶

Monsanto owns the intellectual property rights to RRA, a GE alfalfa crop.¹⁷ APHIS initially classified RRA as a regulated crop,¹⁸

10. The Plant Protection Act became law in June 2000 as part of the Agricultural Risk Protection Act and consolidates all or part of 10 existing USDA plant health laws into one comprehensive law, including the authority to regulate plants, plant products, and plant pests. *The Plant Protection Act: Plant Protection and Quarantine*, U.S. DEP’T OF AGRIC. ANIMAL & PLANT HEALTH INSPECTION SERV. (June 2002), http://www.aphis.usda.gov/lpa/pubs/fsheet_faq_notice/fs_phproact.html.

11. *Monsanto*, 130 S. Ct. at 2749 (citing 7 U.S.C. § 7711(a) (2006)).

12. *Id.*

13. *Id.*

14. The EIS is a NEPA compliance document used to evaluate a range of alternatives when solving whether the problem would have a significant effect on the human environment. *National Environmental Policy Act: Frequently Asked Questions*, U.S. ENVTL. PROT. AGENCY (Jan. 2, 2009), <http://www.epa.gov/compliance/resources/faqs/nepa/index.html>. The EIS is a formal analysis process which mandates public comment periods that covers purpose and need, alternatives, existing conditions, environmental consequences, and consultation and coordination. *Id.*

15. *Monsanto*, 130 S. Ct. at 2750.

16. COUNCIL ON ENVTL. QUALITY, EXEC. OFFICE OF THE PRESIDENT, A CITIZENS GUIDE TO THE NEPA: HAVING YOUR VOICE HEARD 12 (2007), *available at* http://ceq.hss.doe.gov/NEPA/Citizens_Guide_Dec07.pdf.

17. *Geertson Seed Farms v. Johanns*, 570 F.3d 1130, 1134 (9th Cir. 2009) *rev’d sub nom.*

but in 2004, Monsanto sought nonregulated status for RRA.¹⁹ In response, APHIS prepared a draft environmental assessment, and after considering hundreds of public comments, APHIS issued a “Finding of No Significant Impact and decided to deregulate RRA unconditionally and without preparing an EIS.”²⁰ Geertson filed suit, alleging NEPA and Plant Protection Act violations.²¹ The district court agreed with APHIS’s determination that RRA does not have any harmful health effects on humans or livestock²² but held that APHIS violated NEPA by deregulating RRA without first preparing an EIS.²³ More specifically, APHIS’s environmental assessment failed to answer questions concerning the extent to which complete deregulation would lead to the contamination of organic alfalfa and the extent to which introducing RRA would contribute to the development of Roundup-resistant weeds.²⁴ The district court subsequently (1) vacated APHIS’s deregulation decision, (2) ordered the agency to prepare an EIS before it ruled on Monsanto’s deregulation petition, and (3) enjoined virtually all planting of RRA until the agency could finish the EIS.²⁵

On appeal, the U.S. Court of Appeals for the Ninth Circuit affirmed.²⁶ The Ninth Circuit panel found that the district court had not committed clear error in making any of its ancillary factual findings and had “not abuse[d] its discretion in choosing to reject APHIS’s proposed mitigation measures in favor of a broader injunction to prevent more irreparable harm from occurring.”²⁷

Monsanto Co. v. Geertson Farms Inc., 130 S. Ct. 2743 (2010). RRA is engineered to be tolerant of glyphosate, the active ingredient of the herbicide Roundup. *Id.*

18. Regulated pests are frequently intercepted from imported commodities at U.S. ports of entry, and regulated pests identified by APHIS or stakeholders are indicated as having the potential to cause serious economic or environmental damage in the United States. 7 C.F.R. §§ 300–99 (2010).

19. *Monsanto*, 130 S. Ct. at 2750.

20. *Id.*

21. *Id.* at 2750–51.

22. Petition for a Writ of Certiorari, *supra* note 3, at 4.

23. *Geertson Farms Inc. v. Johanns*, No. C-06-01075-CRB, 2007 WL 1302981, at *1 (N.D. Cal. 2007), *aff’d*, 570 F.3d 1130 (9th Cir. 2009), *rev’d sub nom.* *Monsanto Co. v. Geertson Farms Inc.*, 130 S. Ct. 2743 (2010).

24. *Id.*

25. *Id.* at *9.

26. *Geertson Seed Farms v. Johanns*, 570 F.3d 1130, 1133 (9th Cir. 2009), *rev’d sub nom.* *Monsanto Co. v. Geertson Farms Inc.*, 130 S. Ct. 2743 (2010).

27. *Id.* at 1139.

Monsanto petitioned the Supreme Court for review. The appeal raised two central questions. The first issue was whether the conventional alfalfa farmers were the proper parties to sue—whether they had standing under Article III of the U.S. Constitution.²⁸ The second issue, and the focus of this Comment, was a technical question about the scope of the district court’s injunction preventing the government from granting Monsanto’s petition to deregulate its alfalfa seeds.²⁹ The Supreme Court held that the district court had issued an overly broad injunction.³⁰ Furthermore, the injunction prevented the government from granting a petition without preparing a full environmental impact statement, not only for complete deregulation, but also for partial deregulation of conventional alfalfa crops.³¹

III. BACKGROUND

A. NEPA Procedural Requirements

Congress created NEPA over forty years ago as part of a policy to promote the quality of the U.S. environment.³² Still relevant today, the Act was originally designed to proclaim a national policy that will “encourage productive . . . harmony between man and his environment; promote efforts which will prevent or eliminate damage to the environment . . . and stimulate the health and welfare of man; [and] enrich the understanding of the ecological systems and natural resources important to the Nation”³³ The Act applies to every federal agency and requires them to make informed decisions by first determining whether proposed actions will significantly impact the environment.³⁴ NEPA does not mandate particular results; rather, “it imposes only procedural requirements on federal agencies with a particular focus on requiring agencies to undertake analyses of

28. *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2752–53 (2010).

29. Ann Carlson, *U.S. Supreme Court Issues Decision in Monsanto Case*, LEGAL PLANET: ENVTL. L. & POL’Y BLOG (June 21, 2010), <http://legalplanet.wordpress.com/2010/06/21/u-s-supreme-court-issues-decision-in-monsanto-case/>.

30. *Monsanto*, 130 S. Ct. at 2761.

31. *Id.* at 2759.

32. See COUNCIL ON ENVTL. QUALITY, *supra* note 16, at 2.

33. National Environmental Policy Act of 1969, 42 U.S.C. § 4321 (2006).

34. See *id.*; Allison M. Straka, *Geertson Seed Farms v. Johans: Why Alfalfa Is Not the Only Little Rascal for Bio-Agriculture Law*, 21 VILL. ENVTL. L.J. 383, 388 (2010).

the environmental impact of their proposals and actions.”³⁵

The threshold question in evaluating a NEPA violation is for the agency to determine whether the action is likely to have significant environmental effects.³⁶ If the agency concludes that there are “no likely significant effects on the environment, the agency establishes a categorical exclusion” and allows for deregulation of the crop.³⁷ Further, the proposed action is permissible as long as no “extraordinary circumstances” exist that may cause the action to negatively impact the environment.³⁸

Conversely, if the agency determines the proposed action will have a significant impact on the environment, NEPA requires it to prepare an EIS.³⁹ The EIS dictates more extensive regulatory requirements:⁴⁰ NEPA mandates that the agency “must identify all of the environmental issues involved and make recommendations about the action,” while simultaneously receiving public feedback.⁴¹ Following the EIS findings and public comment period, the agency then decides whether to implement the proposed action.⁴² If, however, the agency cannot determine if the action will affect the environment, it must prepare an environmental assessment that evaluates the effect on the human environment and contemplates options to reduce such effects.⁴³ If the agency finds an absence of significant environmental effects following the public feedback period, it establishes a Finding of No Significant Impact and makes a decision about the action.⁴⁴

Before the *Monsanto* decision, APHIS found no significant impact after conducting its environmental assessment, which led to the deregulation of RRA and subsequent litigation.⁴⁵ APHIS’s determinations indicate that the NEPA process provides agencies

35. Dep’t of Transp. v. Pub. Citizen, 541 U.S. 752, 756–57 (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349–50 (1989)).

36. COUNCIL ON ENVTL. QUALITY, *supra* note 16, at 8–9; Straka, *supra* note 34, at 389.

37. COUNCIL ON ENVTL. QUALITY, *supra* note 16, at 10.

38. *Id.* at 11.

39. Straka, *supra* note 34, at 389.

40. COUNCIL ON ENVTL. QUALITY, *supra* note 16, at 13.

41. Straka, *supra* note 34, at 389.

42. COUNCIL ON ENVTL. QUALITY, *supra* note 16, at 18.

43. *Id.* at 12; Straka, *supra* note 34, at 389.

44. COUNCIL ON ENVTL. QUALITY, *supra* note 16, at 12.

45. *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2750 (2010).

with a tremendous amount of discretion when determining their actions' environmental effects.⁴⁶ Moreover, "APHIS faces the difficult task under NEPA of determining the environmental effects of [GE] agriculture when unresolved scientific issues still exist."⁴⁷ The confusion in *Monsanto* over whether deregulating RRA "would significantly affect the environment illustrates this difficulty."⁴⁸

B. Recent GE Agriculture Case Developments

A recent example of judicial interference in ensuring compliance with NEPA's procedural requirements is evident in *Center for Food Safety v. Vilsack*,⁴⁹ in which the plaintiffs challenged APHIS's decision to deregulate Roundup Ready sugar beets (a Monsanto product).⁵⁰ APHIS had conducted an environmental assessment, concluded that the product did not have any significant environmental impact, and fully deregulated the GE crop.⁵¹ The *Vilsack* court found that deregulation of the Roundup Ready sugar beets was not supported by sufficient reasoning that it would not affect the environment and deemed deregulation as unreasonable because conventional, ordinary sugar beets could become contaminated.⁵² The *Vilsack* court held that "the potential elimination of [a] farmer's choice to grow non-genetically engineered crops, or a consumer's choice to eat non-genetically engineered food, and an action that potentially eliminates or reduces the availability of a particular plant has a significant effect on the human environment."⁵³

46. See Philip Michael Ferester, *Revitalizing the National Environmental Policy Act: Substantive Law Adaptations from NEPA's Progeny*, 16 HARV. ENVTL. L. REV. 207, 207-08 (1992) (describing NEPA as a "mere full disclosure bill," giving federal agencies a great amount of discretion when implementing requirements).

47. Straka, *supra* note 34, at 390; see also Anthony J. Conner et al., *The Release of Genetically Modified Crops into the Environment*, 33 PLANT J. 19, 20 (2003), available at <http://www.ncbi.nlm.nih.gov/pubmed/12943539> (identifying scientific questions regarding effects of GE agriculture).

48. Straka, *supra* note 34, at 389; see *Geertson Seed Farms v. Johanns*, 570 F.3d 1130, 1135 (9th Cir. 2009) *rev'd sub nom. Monsanto Co. v. Geertson Farms Inc.*, 130 S. Ct. 2743 (2010). APHIS violated NEPA because it "failed to take the required 'hard look' at whether and to what extent the unconditional deregulation of Roundup Ready alfalfa would lead to genetic contamination of non-genetically engineered alfalfa." *Id.*

49. No. C-08-00484-JSW, 2009 WL 3047227 (N.D. Cal. Sept. 21, 2009).

50. *Id.* at *1-2.

51. *Id.* at *2.

52. See *id.* at *8-9.

53. *Id.* at *9.

Furthermore, the court stated that the plaintiff does not need to show that significant environmental effects will in fact occur, but if the plaintiff “raises substantial questions about whether a project may have a significant effect, an EIS must be prepared.”⁵⁴ Therefore, the court held that APHIS had violated NEPA and ordered it to complete an EIS.⁵⁵

IV. REASONING OF THE COURT

In *Monsanto* the Supreme Court reversed the Ninth Circuit decision, agreeing that petitioners were injured because they could not sell RRA until APHIS completed the EIS.⁵⁶ The Court provided an overview of the standard governing the entry of permanent injunctive relief involving NEPA violations. In short, the plaintiff must establish the following four elements: (1) that an irreparable injury exists; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that an equitable remedy is warranted considering the balance of hardships between the plaintiff and the defendant; and (4) that a permanent injunction would not disserve the public interest.⁵⁷

The Court then turned to the central question: whether the district court had abused its discretion when it enjoined APHIS from both partially deregulating RRA pending the completion of the EIS and prohibiting most planting of RRA.⁵⁸ The Court answered this question in the affirmative.⁵⁹

In so holding, the Court explained that the district court’s injunction improperly prohibited *any* partial deregulation.⁶⁰ If the district court determined that APHIS’s original complete deregulation of RRA was procedurally invalid, it was then for

54. *Id.*

55. *Id.*

56. Because this injury could be redressed by a favorable ruling, the petitioners’ constitutional standing requirements were satisfied. *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2754 (2010). Similarly, respondents had standing to seek injunctive relief because the substantial risk of gene flow injured them by increasing their costs and requiring them to take steps to minimize risks of contamination. *Id.* at 2756.

57. Interestingly, the Court in *eBay* referred to this as the “familiar principles” of the four-part test, despite the fact that *eBay* was the first opinion to establish such a test. *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006).

58. *Monsanto*, 130 S. Ct. at 2756.

59. *Id.* at 2761.

60. *Id.* at 2757–60.

APHIS to decide whether it would partially deregulate RRA.⁶¹ Thus, although the district court could decline to adopt APHIS's proposed judgment—which would have authorized a partial deregulation—it lacked authority to enjoin a partial deregulation that had not yet occurred.⁶²

The Court concluded that injunctive relief was inappropriate because respondents could not show that they would suffer irreparable injury if APHIS proceeded with a partial deregulation.⁶³ First, the respondents could file a new suit challenging such an action.⁶⁴ Second, they might not suffer any injury at all if the partial deregulation were sufficiently limited in scope.⁶⁵ For example, APHIS could deregulate in a way that would eliminate all risk of gene flow to respondents' crops.⁶⁶

Finally, the Court held that the district court erred in entering a nationwide injunction against planting RRA.⁶⁷ The Court again emphasized the impropriety of enjoining APHIS from partially deregulating RRA: "If APHIS may partially deregulate RRA before preparing a full-blown EIS—a question that we need not and do not decide here—farmers should be able to grow and sell RRA in accordance with that agency determination."⁶⁸ Therefore, because a less drastic remedy—such as simply vacating APHIS's deregulation decision—could redress the respondents' injury, it was unnecessary to resort to the "additional and extraordinary relief of an injunction."⁶⁹

V. ANALYSIS

The Supreme Court in *Monsanto* determined the extent of the burden that plaintiffs must prove to permanently enjoin an activity

61. *Id.*

62. *Id.* The Court reasoned that "[u]ntil APHIS actually seeks to effect a partial deregulation, any judicial review of such a decision is premature." *Id.* at 2758.

63. *Id.* at 2759–60. "Irreparable injury" is the first prong of the "familiar" four-part test for permanent injunctions, articulated in *eBay*. *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006).

64. *Monsanto*, 130 S. Ct. at 2760.

65. *Id.*

66. *Id.*

67. *Id.* at 2761.

68. *Id.*

69. *Id.*

that violates NEPA. By reversing the Ninth Circuit decision, however, the Supreme Court sent the wrong message: although there is scientific uncertainty surrounding the effects of GE agriculture, use of chemical RRA is allowed. As the dissent suggests, the Court did not err on the side of caution by upholding the Ninth Circuit injunction;⁷⁰ instead, the Court indicated that it is not necessarily interested in respecting NEPA procedures or the ramifications for consumers by allowing the continued use of chemicals without thorough analysis. Monsanto argued that the lower courts erred in not requiring Geertson to show a sufficient likelihood of irreparable harm before permanently enjoining RRA's further use.⁷¹ First, it contended that the Ninth Circuit erred in establishing a presumption of irreparable harm whenever someone violates NEPA's procedural mandates.⁷² It did so by analogizing its case to "cases involving other environmental statutes (including the Clean Water Act and the Alaska National Interest Lands Conservation Act) in which the Court declined to create such a presumption."⁷³ Although, as Monsanto conceded, the Ninth Circuit expressly denied that it was establishing a presumption of irreparable harm, its argument that the Ninth Circuit's approach effectively "amounts to the same thing"⁷⁴ is unconvincing. "Given the broad sweep of the injunctive relief ordered, which substantially exceeded what the USDA had proposed in response to the court's finding of a NEPA violation, the scope of the injunction goes well beyond what is needed to cure the procedural defect."⁷⁵ And, in any event, the case does not support Monsanto's argument that "the district court erred in not conducting an evidentiary hearing on the likelihood of irreparable harm."⁷⁶

Geertson made two primary arguments in response to Monsanto. First, Geertson argued that "although neither the district court nor the Ninth Circuit . . . established a presumption of irreparable harm, Geertson . . . in any event satisfied the likelihood-of-irreparable-harm

70. *See id.* at 2769–71 (Stevens, J., dissenting).

71. *Id.*

72. *Id.* at 2767–69.

73. Josh Patashnik, *Do NEPA Violations Cause Irreparable Harm?*, SCOTUSBLOG, (Apr. 27, 2009, 8:24 AM), <http://www.scotusblog.com/2010/04/do-nepa-violations-cause-irreparable-harm/>.

74. *Id.*

75. *Id.*

76. *Id.*

prong.”⁷⁷ Second, Geertson argued that “the Court should not require district courts to hold a formal trial-type hearing on the likelihood-of-success question, as district courts traditionally retain substantial leeway in determining how to conduct injunction hearings.”⁷⁸ In the case of *Monsanto*, cross-pollination of GE crops could contaminate conventional alfalfa fields. Further, overuse of the herbicide Roundup, which the GE seeds were bred to resist, could harm soil and groundwater or even create Roundup-resistant “super weeds”—essentially hurting the produce that consumers eat every day. Justice Stevens put it best when he stated that “the district court did not abuse its discretion when, after considering the voluminous record and making the aforementioned findings, it issued the order now before us.”⁷⁹ The response is reasonable given the serious nature of the risks posed by RRA. Furthermore, the lower court permissibly exercised its equitable authority when issuing the injunction.

A. Use of Genetically Modified Crops

In its amicus brief, the American Farm Bureau Federation faulted the district court for not considering the public interests served by the use of GE crops such as RRA.⁸⁰ It contended that a farmer using RRA could produce higher-quality alfalfa and spend less money on expensive herbicides, and further, that the herbicide glyphosate is better for the environment than other herbicides.⁸¹

However, the probability of RRA plants genetically contaminating conventional alfalfa is high and occurred after other genetically engineered species have been introduced.⁸² Furthermore, once contamination occurs, it becomes “extraordinarily difficult to halt, let alone reverse.”⁸³ If irreversible contamination of conventional alfalfa occurs, farmers who grow organic alfalfa will lose their ability to participate in the organic food market because the

77. *Id.*

78. *Id.*

79. Jennifer Koons, *Supreme Court Lifts Ban on Planting GM Alfalfa*, N.Y. TIMES, June 21, 2010, at B3.

80. Brief of American Farm Bureau, *supra* note 2, at 16.

81. *Id.* at 17.

82. Brief for Respondents at 36, 41–42, *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743 (2010) (No. 09-475).

83. *Id.* at 39.

organic market demands products to be 100 percent GE-free.⁸⁴ This loss would be tremendously detrimental to these farmers and to the community at large, and it could hurt the significant growth in demand for organic products.⁸⁵

B. Injunctive Relief in NEPA Cases

The district court did not require Geertson to show a sufficient likelihood of irreparable harm, and this element should have been further developed and examined by the Supreme Court.⁸⁶ Applying a low standard for permanent injunctions in these cases would impede important government programs, such as initiatives in the government's stimulus plan that must first go through NEPA review.⁸⁷ Furthermore, had the Supreme Court created a narrower remedy deferring to APHIS's area of expertise,⁸⁸ then the imposition of the injunction would depend on the agency, which has expertise in regulating GE crops, rather than the courts, which do not.⁸⁹ Furthermore, allowing judges to circumvent agency solutions would create a slippery slope that gives judges too much power to overrule federal programs with which they disagree politically.

The Supreme Court's decision in this case clarified the burden plaintiffs must meet in seeking any injunction, not only ones pertaining to NEPA violations. By overturning the Ninth Circuit decision, the Court sent a message: when faced with scientific uncertainty, one must forge ahead when making a decision to deregulate rather than issue an injunction.⁹⁰ If the Court permits a standard that allows deregulation before an environmental assessment has been filed, the court does not evaluate all the possible harms of deregulation.⁹¹

84. *Id.* at 40.

85. *Id.*

86. See Brief of Amici Curiae Chamber of Commerce of the United States of America, et al. in Support of Petitioners at 25, *Monsanto*, 130 S. Ct. 2743 (No. 09-475).

87. See *id.* at 23–24.

88. See *id.* at 27.

89. *Id.*

90. See *id.* at 28–29 (“[I]nstead of giving any deference to the expert agency and its scientific findings, the district court gave APHIS's view no weight at all. The Ninth Circuit then compounded that error by deferring to the district court and not APHIS.”).

91. *Monsanto*, 130 S. Ct. at 2771 (Stevens, J., dissenting) (“It was reasonable for the [district] court to conclude that planting could not go forward until more complete study, presented in an EIS, showed that the known problem of gene flow could, in reality, be

C. What Is the Appropriate Standard for Granting Injunctive Relief?

Monsanto argued that the lower courts inappropriately issued an injunction by mistakenly applying a special rule for injunctive relief in NEPA-violation cases.⁹² In so arguing, Monsanto showed the lower courts erred when they simply used a procedural violation of NEPA as a proxy for the finding that irreparable injury was likely to occur if they did not issue the injunction sought.⁹³ Rather, lower courts were *required* to make a separate, independent finding of likely irreparable harm in the absence of an injunction.⁹⁴

The Court articulated the four-part equitable test for injunctive relief, which was initially presented in *eBay Inc. v. MercExchange, LLC*.⁹⁵ The problem, according to Monsanto, is that neither the lower court nor the Ninth Circuit actually judged whether irreversible harm was likely to occur or whether such harm could be prevented through a more narrowly tailored injunction.⁹⁶ Rather, the district court simply “based its injunction on the *possibility* of two harms it believed could flow from the use of RRA”⁹⁷ Monsanto then argued that there is no likelihood that RRA would eliminate conventional alfalfa (relying on a string of scientific testing).⁹⁸ Further, if the courts adopted the proposed narrowly tailored injunction—rather than a blanket injunction—the stewardship measures outlined in the proposal would significantly reduce any risk of cross-pollination between RRA and regular alfalfa.⁹⁹ Moreover, even if there were individual cases of cross-pollination, such isolated incidents could not constitute irreparable environmental harm for the purposes of injunctive relief.¹⁰⁰

prevented.”).

92. Brief for Petitioners at 25–26, *Monsanto Co.*, 130 S. Ct. 2743 (No. 09-475).

93. *Id.* at 27.

94. *Winter v. Nat. Res. Def. Council*, 129 S. Ct. 365, 375 (2008).

95. 547 U.S. 388 (2006); see Brief for Petitioners, *supra* note 92, at 25 (laying out the four-part test).

96. *Id.* at 28–29.

97. *Id.* at 33.

98. *Id.* at 34–37.

99. *Id.* at 35–47.

100. *Id.* at 35 (“The remote possibility of sporadic cross-pollination of conventional crops with neighboring RRA, however unwanted by the conventional or organic farmer, is not a cognizable environmental harm under NEPA and therefore not an appropriate cause for an injunction to remedy a NEPA violation.”).

However, the district court did, in fact, make a finding of likely irreparable harm, and its decision to issue the injunction was an appropriate exercise of judgment.¹⁰¹ It sufficiently established instances of genetic contamination between regular alfalfa and RRA, which was enough to show that such occurrences were likely to continue, absent a blanket injunction.¹⁰²

In *eBay*, the Court articulated the “familiar” four-part test with the fourth prong stating that granting the injunction does not disserve the public interest.¹⁰³ Before implementing this test, it had always been the case that courts, when balancing equitable harms, weighed the public interest.¹⁰⁴ *Monsanto* reinforced *eBay*’s principle that the burden rests with the plaintiff to show that the public interest would *not* be disserved if the court issued an injunction.¹⁰⁵ In *Monsanto*, the Court, although troubled by specific components of the injunction,¹⁰⁶ moved forward with the *eBay* test and appeared oblivious to any difference between permanent and preliminary injunctions.¹⁰⁷ In the traditional four-part test for preliminary injunctions, one element is probability of success on the merits,¹⁰⁸ which makes no sense if applied to permanent injunctions because they are issued *after* the merits of the case have been successfully established.¹⁰⁹

Additionally, *Monsanto* reinforces that the familiar four-part test

101. Brief for Respondents, *supra* note 82, at 35.

102. *Id.* at 36.

103. See *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391–92 (2006). There has never been a “traditional” four-part test. Remedies specialists have never even heard of the four-part test. Doug Rendleman, *The Trial Judge’s Equitable Discretion Following eBay v. MercExchange*, 27 REV. LITIG. 63, 76 n.71 (2007).

104. See *eBay*, 547 U.S. at 396 (Kennedy, J., concurring); *MercExchange, LLC v. eBay, Inc.*, 401 F.3d 1323, 1338–39 (Fed. Cir. 2005), *vacated*, 547 U.S. 388 (2006); *Forest Conservation Council v. U.S. Forest Serv.*, 66 F.3d 1489, 1496 (9th Cir. 1995); see also *Lands Council v. McNair*, 537 F.3d 981, 1005 (9th Cir. 2008) (“[T]he public interest in preserving nature and avoiding irreparable injury outweighs economic concerns in cases where plaintiffs were likely to succeed on the merits of their underlying claim . . .”).

105. *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2756 (2010) (following *eBay* in that “the plaintiff must satisfy the four-factor test before a court may grant an injunction”).

106. *Id.* at 2758 (“Until APHIS actually seeks to effect a partial deregulation, any judicial review of such a decision is premature.”).

107. Preliminary injunctions are issued before a final decision on the merits, an important distinction. The court in *eBay* had initially cited *Romero-Barcelo* and *Amoco*. *Amoco* was a preliminary injunction case, not a permanent injunction case. Similarly, the proposed injunction in *Romero-Barcelo* reads as though the injunction was only preliminary. DOUGLAS LAYCOCK, *MODERN AMERICAN REMEDIES* 426 (4th ed. 2010).

108. *Id.*

109. *Id.*

does not apply only to patent cases, as some courts had argued until this case.¹¹⁰ Furthermore, not only have the federal courts never offered the test before but now lower courts are struggling to apply it and to explain the difference between the irreparable-injury and inadequacy-of-damages prongs.¹¹¹

VI. IMPLICATIONS

A. *Effects of Deregulation*

On January 27, 2011, the U.S. Department of Agriculture (USDA) decided to *fully deregulate* Monsanto's genetically engineered crops—a choice favored by large biotech companies.¹¹² This step was taken after an extensive inquiry into the effects of RRA deregulation, a draft EIS that listed preliminary conclusions, and a public comment period, which was met with such an overwhelming response that the APHIS decided to extend the public comment period. The USDA had the option to maintain “regulatory status” over RRA, an incredibly important crop for the livestock industry, or the option to limit the deregulation with “bans on the planting of GE alfalfa seeds in seed growing regions to attempt to limit the contamination of alfalfa seed stock by foreign DNA from Monsanto's crop.”¹¹³ Instead, although receiving over 250,000 public comments, with the majority opposing deregulation, the agency decided to completely deregulate under extensive pressure from the biotech sector.¹¹⁴ One positive result is the announcement that the USDA would “establish a second germ plasm/seed center for alfalfa in the state of Idaho to try and maintain GE-free strains of alfalfa.”¹¹⁵ Even so, full deregulation to the extent allowed by the USDA will have severe consequences on both the farming industry and the environment.

Monsanto has far broader implications beyond GE alfalfa. For

110. *Id.* at 427.

111. *See id.* (explaining that before *eBay*, courts presumed irreparable injury in intellectual property cases, but that courts are now split on whether any such presumption is permissible).

112. *USDA to Fully Deregulate Monsanto's Genetically Engineered Alfalfa—Gene Contamination of Feed, Milk, Meat and Other Products to Follow . . .*, CORNUCOPIA INST. (Jan. 27, 2011), <http://www.cornucopia.org/2011/01/breaking-news>.

113. *Id.* Alfalfa is typically pollinated by bees and “has a pollination radius of five miles.” *Id.*

114. *Id.*

115. *Id.*

one, “it illustrates the growing trend of genetic modification in agriculture, the unanswered questions surrounding its environmental effects, and the insufficiency of APHIS’s decision-making under existing laws.”¹¹⁶ Deregulation can lead to the contamination of pure strains of alfalfa, a complaint described by the owner of Geertson Seed Farms.¹¹⁷ It is critical to keep strains of alfalfa pure from cross-pollination to ensure the health of those consuming organic products. If the distinction between pure and GE alfalfa is blurred, the farming industry, more specifically small, family-owned farms, will encounter great obstacles in distinguishing between GE and pure varieties of their crop.

Deregulation also has a negative impact on the amount of GE ingredients in our local supermarkets, which is “growing at an increasingly alarming rate.”¹¹⁸ More concerning is that government agencies such as the USDA, through *Monsanto*, have decided to overlook GE crops’ ramifications, and even worse have “allow[ed] them to be sold without any labeling whatsoever.”¹¹⁹ The American consumer has been “left largely in the dark, unable to make informed choices about buying foods containing [GE ingredients].”¹²⁰ Given the mind-boggling figures—by some estimates over 75 percent of all processed foods sold in the United States contain a genetically modified ingredient—corn, soy, sugar, beef, and dairy products are among the most likely to have been genetically modified.¹²¹ Next, given the difficulty in finding and growing GE-free crops, the prices of organic goods could rise, particularly in stores specializing in GE-free organic foods such as Trader Joe’s.¹²² Additionally, “U.S. alfalfa

116. Straka, *supra* note 34, at 389; *see also Is USDA Accounting for Costs to Farmers Caused by Contamination from Genetically Engineered Plants?: Hearing Before the Domestic Policy Subcomm.*, 110th Cong. 4–5 (2008) (opening statement of Congressman Dennis J. Kucinich, Chairman, Domestic Policy Subcomm., Oversight and Government Reform Comm.).

117. “Once RRA is in the environment . . . alfalfa as we know it will be gone forever.” KRISTINA HUBBARD, W. ORG. OF RES. COUNCILS, A GUIDE TO GENETICALLY MODIFIED ALFALFA (2008), *available at* http://www.worc.org/userfiles/file/Guide_%20to_%20GM_%20Alfafa_%20v2.pdf (noting significance of Geertson Seed Farms in agricultural litigation).

118. Josh Corn, *Why You Should Be Concerned About GMOs*, LIVE NOW (Feb. 20, 2011), <http://www.stopagingnow.com/liveinthenow/article/are-gmo-foods-bad-for-you-why-you-should-be-concerned>.

119. *Id.*

120. *Id.*

121. *Id.*

122. Straka, *supra* note 34, at 402; *see also Trader Joe’s Frequently Asked Questions*, TRADER JOE’S, <http://www.traderjoes.com/about/product-faq.asp> (last visited Mar. 27, 2011).

exports to foreign countries could also be adversely affected as many countries require [GE-free] feed.”¹²³

Furthermore, deregulation may lead to increased herbicide use.¹²⁴ “Since the introduction of Roundup Ready crops in the United States, herbicide use has increased by 60,000 tons.”¹²⁵ This increased use of herbicides “increases the risk of subsequent environmental effects, such as the development of herbicide-resistant weeds.”¹²⁶ The “popularity of [GE] agriculture will only persist as large corporations like Monsanto continue to develop new [GE] products, such as [GE] milk and [GE] sugar beets,”¹²⁷ which are cash cows for Monsanto and other large agricultural corporations.¹²⁸ Seeds are genetically modified through genes or viruses that are “spliced into their DNA,” so that they can withstand the heavy amounts of pesticides that are typically sprayed on them.¹²⁹ What is more alarming is that, to date, “there have been no long-term human safety studies conducted on genetically modified [crops].”¹³⁰ Furthermore, it is inconceivable to assume that GE crops are nontoxic and benign to the consumer, as not enough research or testing has been conducted to determine the effect of their potency on human health.¹³¹

Furthermore, the American Academy of Environmental Medicine’s (the “Academy”) position on GE crops is that they “have not been properly tested and pose a serious health risk,” and that production of GE foods should be halted until long-term studies demonstrate their safety.¹³² According to the Academy, “[a]nimal studies indicate serious health risks associated with GE crops,” including reproductive problems, compromised immunity,

123. Straka, *supra* note 34, at 402.

124. *Id.*

125. *Id.* at 402–03.

126. *Id.* at 403 (citing DONNA U. VOGT & MICKEY PARISH, CONG. RESEARCH SERVS., FOOD BIOTECHNOLOGY IN THE UNITED STATES: SCIENCE, REGULATION, AND ISSUES (1999), available at <http://www.ncseonline.org/nle/crsreports/science/st-41.pdf> (discussing the potential for resistant weeds)).

127. Straka, *supra* note 34, at 404.

128. See Donald L. Barlett & James B. Steele, *Monsanto’s Harvest of Fear*, VANITY FAIR (May 2008), <http://www.vanityfair.com/politics/features/2008/05/monsanto200805> (mentioning products under development by Monsanto).

129. Corn, *supra* note 118.

130. *Id.*

131. *Id.*

132. *Id.*

accelerated aging, blood sugar imbalances, and harm to major organs.¹³³ Many other local and national environmental, public health, and consumer protection organizations are also calling for these initiatives to be taken and for Monsanto's destructive ways to be stopped.¹³⁴

Despite GE agriculture's wide usage, GE products are regulated under APHIS, an agency that was "created at a time when [GE] products had not yet been conceived."¹³⁵ As a result, the current regulations governing GE agriculture do not properly handle the issues that GE crops pose. Courts have expressed an eagerness to enforce compliance with NEPA's regulatory standards: the "continued issuance of injunctions on a case-by-case basis for each new GE product may become costly and inefficient as GE agriculture and its accompanying regulatory problems grow."¹³⁶

Furthermore, courts are not equipped to make decisions about the safety of GE products for two reasons. First, they lack the necessary scientific knowledge to make findings about the safety of these products.¹³⁷ And second, there is insufficient research to provide to courts when making decisions about GE food safety. Therefore, instead of depending on courts to make the scientific conclusions, the USDA should design a "new regulatory system to rectify inadequacies in the current system."¹³⁸ Given the significant increase in GE foods, legislatures must develop new laws specifically geared to the regulation of GE agriculture and the "division of regulatory authority over [GE] agriculture must shift from APHIS to an agency with the scientific knowledge, experience, and resources to properly assess the environmental effects of this technology."¹³⁹

B. Injunctive Relief

Most troubling are *Monsanto's* ramifications with regard to the public-interest prong of the *eBay* test and the lack of a class-action

133. *Id.*

134. *Id.*

135. Straka, *supra* note 34, at 405.

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

certification. The Court said that the case was not a class action; thus, plaintiffs could not rely on harm to parties not before the Court. “Although the Court emphasized its new four-part test, it appeared to treat as irrelevant the possibility that harm to alfalfa-seed farmers who were not plaintiffs [in this case might constitute] harm to the public interest.”¹⁴⁰ As Justice Stevens noted, the plaintiffs included organizations of farmers, consumers, and environmentalists.¹⁴¹ Because organizations can represent their members without a class certification, harm to any member of one of these organizations is equivalent to harm to one of the parties.¹⁴² However, the Court seems to have a narrow definition of how a plaintiff can prove that an injunction does not disserve the public interest.

Interestingly, in *eBay*, the Court phrases the public-interest test as requiring the plaintiff to show that the public interest is not *disserved* by granting the injunction.¹⁴³ Was the phrasing deliberate, or inadvertent? Does this mean that benefits to the public interest cannot count in favor of issuing the injunction? May a plaintiff show that an injunction could be *in* the public interest, not disserved by it? Essentially, the Court has molded the public-interest prong to work in one direction.

VII. CONCLUSION

Monsanto has opened the door to deregulation of genetically engineered agriculture in a manner that, unfortunately, is harmful to both the environment and to the public. Furthermore, by making injunctive relief more difficult to obtain, the public and small groups are unable to band together to stop the movement toward deregulation. Unfortunately, the *Monsanto* decision takes a step in the wrong direction for a more environmentally friendly food product and for injunctive relief actions.

140. LAYCOCK, *supra* note 107, at 4.

141. *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2771 n.12 (2010) (Stevens, J., dissenting).

142. LAYCOCK, *supra* note 107, at 4.

143. *See eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006).

