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DICAMBA IS GONE WITH THE WIND: THE NINTH CIRCUIT
BLOWS LIFE INTO FIFRA IN *NATIONAL FAMILY
FARM COALITION V. UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY*

I. THE TEMPEST: AN INTRODUCTION TO FIFRA AND DICAMBA

Soybean farmers, an integral part of the United States economy, planted eighty-three million acres of crops in 2020 worth approximately forty-six billion dollars.¹ These economic incentives are not for the faint of heart; farmers face threats from various sources such as weeds, pests, and disease, but a new threat is rising — over-the-top (OTT) dicamba use.² For decades, farmers have used the pesticide dicamba, which is characterized by both its effectiveness and volatility.³ Because of dicamba's volatility — which describes a chemical's ability to vaporize into the atmosphere and drift off target — farmers generally did not use it during growing seasons.⁴ Instead, farmers sprayed traditional dicamba on weeds prior to soybean growth rather than directly onto the soybeans.⁵ In dicamba's place, herbicides such as Roundup dominated the marketplace, eventually leading to herbicide-resistant weeds.⁶ In re-

1. See *Related Data & Statistics*, U.S. DEP'T OF AGRIC. ECON. RSCH. SERV., <https://www.ers.usda.gov/topics/crops/soybeans-oil-crops/related-data-statistics/> <https://www.ers.usda.gov/topics/crops/soybeans-oil-crops/related-data-statistics/> (Oct. 18, 2021) (estimating amount and worth of soybeans planted). The Department of Agriculture estimates soybean use will increase to ninety million acres in 2021. *Id.* (extrapolating 2021 soybean growth).

2. Harold Willis, *How to Solve Common Soybean Problems*, ECO FARMING DAILY, <https://www.ecofarmingdaily.com/grow-crops/grow-soybeans/soybean-diseases-weeds-and-pests/how-to-solve-common-soybean-problems/> (last visited Sept. 3, 2021) (summarizing threats to soybean growth). Additional threats to soybean maturity include nutrient deficiencies, deficient root nodules, and fungus growth. *Id.* (listing additional problems relating to soybeans).

3. See Bob Hartzler, *Dicamba: Past, Present, and Future*, IOWA ST. UNIV.: INTEGRATED CROP MGMT. (Dec. 27, 2017, 3:37 PM), <https://crops.extension.iastate.edu/blog/bob-hartzler/dicamba-past-present-and-future> (describing dicamba's characteristics). Soybeans are extremely sensitive to dicamba; if left unprotected, only 0.005 percent of dicamba's standard use can begin to damage the plant. *Id.* (identifying soybeans' susceptibility to dicamba). For a further explanation of how dicamba drift occurs, see *infra* note 22 and accompanying text.

4. See Carey Gillam, *Dicamba Fact Sheet*, U.S. RIGHT TO KNOW (June 12, 2020), <https://usrtk.org/pesticides/dicamba/> (noting dicamba's previously limited use).

5. See *id.* (explaining traditional use of dicamba prior to OTT use).

6. *Id.* (observing increase in herbicide-resistant weeds). By 2008, about ninety-two percent of all soybeans grown in the United States used seeds specifically designed to resist Roundup-style herbicides. Nat'l Fam. Farm Coal. v. U.S.

sponse to the growing problem of herbicide-resistant weeds, the agricultural industry developed a new form of dicamba and dicamba-resistant soybean seeds.⁷

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) mandates registration of pesticides by the Environmental Protection Agency (EPA) before they can be sold in the United States.⁸ The EPA granted the conditional registration of novel OTT dicamba use in 2016 for a limited two-year period.⁹ Conditional registration allows the EPA to authorize additional uses of a previously registered pesticide if “(i) the applicant has submitted satisfactory data pertaining to the proposed additional use, and (ii) amending the registration in the manner proposed by the applicant would not significantly increase the risk of any unreasonable adverse effect on the environment.”¹⁰ Immediately after the registration of OTT dicamba, complaints of soybean damage skyrocketed.¹¹ The damage OTT dicamba caused is chiefly due to its high volatility, which allows the herbicide to drift onto neighboring farms and damage unsuspecting crops.¹² As the threat and damage of OTT dicamba continued to grow, environmental advocates sued the EPA alleging the Agency improperly registered the OTT use under FIFRA.¹³

Env’t Prot. Agency, 960 F.3d 1120, 1125 (9th Cir. 2020) (finding nearly unanimous use of herbicide-resistant soybean seeds).

7. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1125-26 (outlining history of OTT dicamba development).

8. 7 U.S.C. § 136a(a) (mandating registration of herbicides).

9. U.S. ENV’T PROT. AGENCY, EPA-HQ-OPP-2016-0187-0959, FINAL REGISTRATION OF DICAMBA ON DICAMBA-TOLERANT COTTON AND SOYBEAN (Nov. 9, 2016) [hereinafter FIRST DICAMBA REGISTRATION] (granting conditional registration to OTT dicamba for two years).

10. 7 U.S.C. § 136a(c)(7)(B) (describing required elements for conditional registration).

11. Dan Charles, *Pesticide Police, Overwhelmed by Dicamba Complaints, Ask EPA for Help*, NAT’L PUB. RADIO (Feb. 6, 2020, 7:19 AM), <https://www.npr.org/sections/thesalt/2020/02/06/800397488/pesticide-police-overwhelmed-by-dicamba-complaints-ask-epa-for-help> (finding increased reports of dicamba damage). In 2017, OTT dicamba damaged 3.6 million acres of soybean crops. Johnathan Hettinger, *Despite Federal, State Efforts, Dicamba Complaints Continue*, MIDWEST CTR. FOR INVESTIGATIVE REPORTING (Aug. 27, 2019), <https://investigatamidwest.org/2019/08/27/despite-federal-state-efforts-dicamba-complaints-continue/> (reporting extent of dicamba damage).

12. Charles, *supra* note 11 (reporting dicamba drift causes soybean damage). Soybeans are not the only plant OTT dicamba drift affects; vineyards and orchards have also reported crop damage. *Id.* (asserting scope of OTT dicamba damage is not limited to soybeans).

13. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1124 (explaining causes of action against EPA).

This Note examines the Ninth Circuit's opinion in *National Family Farm Coalition v. United States Environmental Protection Agency*¹⁴ and its impact on the statutory requirements of conditional registrations under FIFRA.¹⁵ Part II provides the facts of the case.¹⁶ Part III discusses the statutory background and structure of FIFRA and how the Ninth Circuit has interpreted and applied the statute to similar challenges.¹⁷ Part IV summarizes the Ninth Circuit's analysis in holding the OTT dicamba registration improper.¹⁸ Part V challenges the Ninth Circuit's decision to forego making a declaratory statement regarding whether the EPA supplied satisfactory data.¹⁹ Finally, Part VI assesses the potential impact of *National Family Farm Coalition* on future FIFRA litigation.²⁰

II. EARTH, WIND, AND FIRE: THE FACTS OF NATIONAL FAMILY FARM COALITION

As the effectiveness of herbicides like Roundup waned, manufacturers created dicamba products designed for users to spray directly over crops.²¹ The development of OTT dicamba alarmed scientists and advocates because of the chemical's tendency to drift off target due to its innate chemical characteristics.²² Despite this alarm, agrochemical companies successfully registered the new

14. 960 F.3d 1120, 1123 (9th Cir. 2020) (reviewing conditional registration of OTT dicamba).

15. For a discussion of *National Family Farm Coalition*'s potential impact on future FIFRA claims for conditional registrations, see *infra* notes 212-29 and accompanying text.

16. For a discussion of the facts and procedural history of *National Family Farm Coalition*, see *infra* notes 21-40 and accompanying text.

17. For a discussion of the legal background of FIFRA and *National Family Farm Coalition*, see *infra* notes 41-81 and accompanying text.

18. For a discussion of how the Ninth Circuit came to its conclusion in *National Family Farm Coalition*, see *infra* notes 82-178 and accompanying text.

19. For a critical analysis of the court's reasoning in *National Family Farm Coalition*, see *infra* notes 179-29 and accompanying text.

20. For a discussion of the potential impact of *National Family Farm Coalition*, see *infra* notes 203-29 and accompanying text.

21. See Petitioner's Opening Brief (Redacted) at 3-4, *Nat'l Fam. Farm Coal. v. U.S. Env't Prot. Agency*, 960 F.3d 1120 (9th Cir. 2020) (No. 19-70115), 2019 WL 3975855, at *3-4 (describing creation of OTT dicamba).

22. *Id.* at *5 (warning of potential dicamba drift damage). At high temperatures and low humidity, dicamba particles vaporize into the atmosphere, allowing drift to occur. Chris Boerboom, *Dicamba and Soybeans: A Controversial Combo*, IOWA STATE UNIV. PROC. OF THE INTEGRATED CROP MGMT. CONF. 54 (Dec. 1, 2009), <https://dr.lib.iastate.edu/server/api/core/bitstreams/7615c0f7-1b7f-4966-ae4c-0c6f565b4105/content> (describing mechanics of dicamba vaporization and drift factors).

OTT use of dicamba with the EPA in 2016.²³ In its approval letter, the EPA granted registration based on the belief that the new dicamba products had a lower volatility risk than previously-registered dicamba.²⁴ Additionally, to minimize the risk of dicamba drift, the EPA placed limitations on the spraying methods for OTT dicamba.²⁵

In January 2017, the National Family Farm Coalition (NFFC) filed suit against the EPA for granting the 2016 conditional registration.²⁶ Before the Ninth Circuit reached a decision on the merits, the EPA in 2018 announced its decision to extend the registration for an additional two-year term.²⁷ Because the 2016 registration was no longer in effect, the Ninth Circuit dismissed the case as moot.²⁸ The court did, however, determine that if the 2018 registration was challenged, it would expedite review of the case.²⁹

In January 2019, the NFFC filed a new petition challenging the 2018 extension of OTT dicamba use.³⁰ The EPA acknowledged reports of dicamba damage since the 2016 registration, but found there was “a lack of scientific consensus regarding the cause of these reported incidents.”³¹ Despite the disagreement surrounding the reported damage, the EPA attempted to mitigate fears of OTT dicamba damage by adding additional labeling requirements to

23. FIRST DICAMBA REGISTRATION, *supra* note 9 (approving conditional registration for OTT dicamba).

24. *Id.* at 2 (citing lower potential of volatility and drift as reasons for approval).

25. *Id.* at 31-33 (adding use limitations to label). Label specifications control when farmers can spray dicamba and include specifications on temperature, wind speeds, spray height, and buffer zones. *Id.* (describing label requirements).

26. Nat'l Fam. Farm Coal. v. U.S. Env't Prot. Agency, 747 F. App'x 646, 647 (9th Cir. 2017) (describing initial suit brought against EPA).

27. *Id.* (noting EPA renewed registration for additional two-year term).

28. *Id.* at 647-48 (dismissing case because 2016 registration was no longer effective).

29. *Id.* at 648 (ordering Clerk of Courts to set “expedited” briefing and argument if applicable).

30. Nat'l Fam. Farm Coal. v. U.S. Env't Prot. Agency, 960 F.3d 1120, 1130 (9th Cir. 2020) (granting review of 2018 registration); *see* U.S. ENV'T PROT. AGENCY, EPA-HQ-OPP-2016-0187-0968, REGISTRATION DECISION FOR THE CONTINUATION OF USES OF DICAMBA ON DICAMBA TOLERANT COTTON AND SOYBEAN 3 (Oct. 31, 2018) [hereinafter FINAL DICAMBA REGISTRATION DECISION] (describing continuation of OTT dicamba registration).

31. FINAL DICAMBA REGISTRATION DECISION, *supra* note 30, at 5 (concluding dicamba use did not cause damage). The EPA also acknowledged the number of complaints regarding dicamba drift tripled in 2017 and doubled in 2018 compared to pre-registration; however, the EPA still concluded the benefits of registration outweighed the risks. *Id.* at 10-11, 18 (reporting number of complaints received per year regarding dicamba drift damage).

OTT dicamba products.³² The new requirements included restricting the time of day when OTT dicamba can be applied, requiring OTT application within forty-five days of planting, and expanding the spraying buffer zones.³³

The NFFC's petition alleged the EPA violated FIFRA and the Endangered Species Act when granting the 2018 conditional registration.³⁴ The NFFC asserted the EPA did not use enough data when making its conditional registration decision and failed to consider additional data produced since the 2016 registration.³⁵ In response, the EPA argued the 2018 registration is supported by sufficient data under FIFRA and, even if the court concluded otherwise, it should remand without vacatur, leaving the registration in effect.³⁶

Under FIFRA, an EPA registration decision is upheld if there is "substantial evidence" to support the decision.³⁷ The Ninth Circuit did not assess the quality of the EPA data, but the court did hold there was not "substantial evidence" to support the EPA's claim that the environment would not be adversely affected by OTT dicamba.³⁸ Specifically, the court found the EPA either severely underestimated risks or failed to acknowledge them altogether.³⁹ Finally, the Ninth Circuit decided against remanding without vacatur, vacating the registration.⁴⁰

32. *Id.* at 3, 19-22 (requiring additional labeling).

33. *Id.* at 22 (summarizing new label and use requirements).

34. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1124 (stating grounds of NFFC's claims). Because the court held that the registration violated FIFRA, it did not consider whether a violation of the Endangered Species Act occurred. *Id.* at 1125 (declining to review Endangered Species Act).

35. Petitioner's Opening Brief (Redacted), *supra* note 21, at *14-36 (summarizing alleged FIFRA violations by EPA).

36. Brief of U.S. Env't Prot. Agency et al., *Nat'l Fam. Farm Coal. v. U.S. Env't Prot. Agency*, 960 F.3d 1120 (9th Cir. 2020) (No. 19-70115), 2019 WL 5396733, at *23 (announcing EPA's argument in relation to FIFRA claim); *Nat'l Fam. Farm Coal.*, 960 F.3d at 1144 (requesting court keep registration active despite FIFRA violation). The EPA also argued for a restricted scope of review in which the court would only examine the registration of Extendimax; however, the Ninth Circuit rejected this argument primarily because the 2018 registration named all three pesticides and the EPA's risk assessment covered OTT dicamba use generally. *Id.* at 1132 (rejecting EPA's request for narrow scope of review).

37. 7 U.S.C. § 136n(b) (determining judicial standard of review for FIFRA claims).

38. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1135-36 (summarizing Ninth Circuit's holding).

39. *Id.* at 1136 (finding EPA failed to use substantial evidence).

40. *Id.* at 1145 (determining appropriate remedy is to vacate registration).

III. WUTHERING HEIGHTS: THE BACKGROUND OF FIFRA, PESTICIDE REGISTRATION, AND JUDICIAL PRECEDENT

To understand the issues surrounding *National Family Farm Coalition*, it is important to outline FIFRA's statutory text, registration methods, and relevant case law.⁴¹ This section begins with an overview of FIFRA and the role of conditional registrations within the EPA's pesticide approval process.⁴² Next, this section examines two recent Ninth Circuit cases to determine how recent courts have interpreted FIFRA.⁴³

A. Federal Insecticide, Fungicide, and Rodenticide Act

Congress enacted FIFRA in 1947, requiring the U.S. Department of Agriculture to oversee the registration and labeling of products falling under its review.⁴⁴ In 1972, Congress amended the Act, resulting in the EPA gaining jurisdiction over FIFRA registrations.⁴⁵ Congress updated FIFRA again in 1978, giving the EPA the ability to grant conditional registrations.⁴⁶

To distribute and sell a pesticide in the United States, FIFRA requires the EPA to first register the pesticide.⁴⁷ The definition of pesticides under FIFRA includes herbicides: "any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant."⁴⁸ The registration process aims to regulate pesticides to avoid "unreasonable adverse effects on the environment."⁴⁹ Unreasonable adverse effects are defined in two ways: "(1) [A]ny unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use

41. For a discussion of the judicial and legislative background of *National Family Farm Coalition*, see *infra* notes 44-81 and accompanying text.

42. For a review of FIFRA and how it affects the registration of herbicides, see *infra* notes 44-62 and accompanying text.

43. For a discussion of recent case law examining FIFRA registrations, see *infra* notes 63-81 and accompanying text.

44. Joanna Lau, Comment, *Nothing But Unconditional Love for Conditional Registrations: The Conditional Registrations Loophole in the Federal Insecticide, Fungicide, and Rodenticide Act*, 44 LEWIS & CLARK ENV'T L.R. 1177, 1180 (2014) (outlining history of FIFRA).

45. Sanne H. Knudson, *Regulating Cumulative Risk*, 101 MINN. L. REV. 2313, 2377 (2017) (reviewing legislative changes to FIFRA).

46. Lau, *supra* note 44, at 1182 (describing FIFRA amendment affecting EPA registration). The amendment added § 136a(c)(7) in its entirety to FIFRA. FIFRA, Pub. L. No. 95-396, 92 Stat. 819 (1978) (updating FIFRA to allow conditional registrations).

47. 7 U.S.C. § 136a(a) (requiring registration of pesticides).

48. 7 U.S.C. § 136(u) (defining pesticides).

49. § 136a(a) (describing scope and purpose of registration process).

of any pesticide or (2) a human dietary risk from residues that result from the use of a pesticide. . . .”⁵⁰

There are two different types of registrations agrochemical companies can apply for to obtain permission to sell their products: nonconditional and conditional registration.⁵¹ For nonconditional registrations, applicants must submit a statement describing the product’s chemical makeup and its uses.⁵² In addition, FIFRA requires applicants to submit extensive data in support of its claims.⁵³ FIFRA itself does not define the type of data to be submitted; instead, “[t]he [EPA] Administrator shall publish guidelines specifying the kinds of information which will be required to support the registration of a pesticide. . . .”⁵⁴ Finally, registration is only granted to a product if “it will perform its intended function without unreasonable adverse effects on the environment.”⁵⁵

FIFRA allows conditional registration under three different circumstances: (1) the pesticide under review is “identical or substantially similar to any currently registered pesticide”; (2) the registration adds additional uses to an existing product; or (3) to register a new active ingredient.⁵⁶ The standard of review for new additional uses requires that “the applicant has submitted satisfactory data pertaining to the proposed additional use” and the approval will not “significantly increase the risk of any unreasonable adverse effect on the environment.”⁵⁷ The EPA still requires data submission for conditional registrations, but not to the same extent as nonconditional registrations.⁵⁸

Congress intended the EPA to issue conditional registrations sparingly.⁵⁹ Today, however, the majority of pesticides registered

50. § 136(bb) (defining unreasonable adverse effects).

51. § 136a(c)(1)-(6) (declaring procedures of nonconditional registration); § 136a(c)(7) (creating conditional registrations).

52. *Id.* § 136a(c)(1)(A) (mandating detailed description of pesticide in application). The statement will also include proposed labeling and the pesticide’s directions for use. § 136(c)(1)(C) (providing additional requirements).

53. § 136a(c)(2) (requiring applicants to submit data for registration).

54. *Id.* (leaving data requirements undefined).

55. *Id.* § 136a(c)(5)(C) (establishing elements of successful registration).

56. *Id.* § 136a(c)(7)(A)-(C) (stipulating which products can obtain conditional registrations).

57. *Id.* § 136a(c)(7)(B) (providing standard of review).

58. *Id.* (granting applicants conditional registrations even when there is less data available to submit). Applicants who do not have the required data at the time of submission must update the EPA once the data becomes available. *Id.* (directing applicants to continue data collection).

59. *See* Lau, *supra* note 44, at 1184 (arguing legislative intent of FIFRA was against widespread use of conditional registrations).

with the EPA are conditional registrations, and there is a lack of oversight over the program.⁶⁰ A Government Accountability Office report found that although the number is most likely inflated, “of 16,156 active pesticide registrations. . . 11,205 (69 percent) of these pesticides were conditionally registered.”⁶¹ Further, the report found that the EPA has no system in place to ensure new data is submitted pursuant to FIFRA’s requirements.⁶²

B. *Pollinator Stewardship Council v. United States Environmental Protection Agency*

In *Pollinator Stewardship Council v. United States Environmental Protection Agency*,⁶³ the petitioners challenged the EPA’s substantive review of pesticide registrations.⁶⁴ In *Pollinator*, a group of beekeepers and advocates brought suit against the EPA for the registration of sulfoxaflor, a chemical known to be toxic to honeybees.⁶⁵ Due to the environmental risks honey bees face, the EPA evaluated the risks associated with sulfoxaflor under a new risk assessment.⁶⁶ Ultimately, the EPA granted registration of sulfoxaflor, which the petitioners argued was made without substantial evidentiary support.⁶⁷

The Ninth Circuit vacated the registration of sulfoxaflor.⁶⁸ When evaluating the data for registration, the EPA admitted the

60. See U.S. GOV’T. ACCOUNTABILITY OFF., GAO-13-145, PESTICIDES: EPA SHOULD TAKE STEPS TO IMPROVE ITS OVERSIGHT OF CONDITIONAL REGISTRATIONS 13, 19 (2013) [hereinafter GAO REPORT], <https://www.gao.gov/assets/gao-13-145.pdf> (investigating conditional registrations).

61. *Id.* (reviewing number of registered pesticides). This number is likely inflated for two reasons: (1) the registration status cannot be changed within the system even if the required data is received, and (2) EPA staff incorrectly identified some applicants as conditional even when their applications fell outside the purview of § 136a(c)(7). *Id.* at 13-14 (finding systemic reasons why conditional registration estimate may be high).

62. *Id.* at 19 (criticizing EPA’s lack of oversight regarding additional data submissions).

63. 806 F.3d 520, 522 (9th Cir. 2015) (reviewing EPA registration of sulfoxaflor).

64. *Id.* at 528 (asserting no substantial evidence supported EPA’s decision to support registering sulfoxaflor).

65. *Id.* at 522 (establishing parties and issues).

66. *Id.* at 524-26 (explaining how EPA evaluated data concerning sulfoxaflor). The risk assessment was a multi-tiered system in which the first tier would determine if potential risks existed, and the second and third tier would refine and add specificity to the risks if present. *Id.* (detailing levels of review).

67. *Id.* at 527-28 (granting registration to sulfoxaflor). The EPA originally proposed a conditional registration, but later changed course and unconditionally registered sulfoxaflor even though no additional data was submitted to the EPA. *Id.* (noting inconsistency of EPA’s decision to register sulfoxaflor).

68. *Pollinator*, 806 F.3d. at 533 (holding EPA’s registration was not supported by substantial evidence).

testing did not coincide with the chemical's proposed intended use.⁶⁹ In fact, the tests evaluating the biological effects of sulfoxaflor on honeybees used concentration rates of the active ingredient far lower than the proposed use.⁷⁰ In vacating the registration, the Ninth Circuit rejected the EPA's view that because the data was inconclusive, "the studies affirmatively prove that sulfoxaflor does *not* cause unreasonable adverse effects to the bees."⁷¹

C. *National Resource Defense Team v. United States Environmental Protection Agency*

*National Resource Defense Team v. United States Environmental Protection Agency*⁷² also challenged the EPA's review of conditional registrations.⁷³ The petitioners challenged the conditional registration of the pesticide NSPW-L30SS (NSPW), which uses nanosilver as its active ingredient.⁷⁴ Because nanosilver was a new active ingredient, FIFRA dictates that approval of the pesticide must also "be in the public's interest."⁷⁵ The EPA asserted its approval of NSPW registration, stating the registration was "in the public interest" because NSPW's application rate is lower and it has a lesser mobility rate.⁷⁶ In response, plaintiffs argued that substantial evidence did not exist to support those claims.⁷⁷

Upon review, the Ninth Circuit held that although the EPA had substantial evidence showing NSPW's decreased application and mobility rate, the court did not have a sufficient basis for deter-

69. *Id.* at 526 (observing EPA's self-assessment of data).

70. *Id.* at 526, 528-32 (describing limitations of testing provided to EPA). The maximum proposed concentration of active ingredient was 0.133 pounds per acre; however, all but one study used concentrations between 0.006 and 0.088 per acre. *Id.* (identifying oversights in testing data).

71. *Id.* at 531 (emphasis in original) (rejecting EPA's basis for valid registration).

72. 857 F.3d 1030, 1033 (9th Cir. 2017) (challenging nanosilver registration).

73. *Nat'l Res. Def. Team v. U.S. Env't Prot. Agency*, 857 F.3d 1030, 1034 (9th Cir. 2017) (litigating conditional registration of pesticide containing nanosilver); *see also* § 136a(c)(7)(C) (allowing conditional registration for new active ingredients).

74. *Nat'l Res. Def. Team*, 857 F.3d at 1034 (describing pesticide under review). Silver has inherent antimicrobial properties and NSPW incorporated the element, engineered to have a smaller particle size, for use in various plastics and textiles. *Id.* (discussing use of silver as pesticide).

75. § 136a(c)(7)(C) (requiring additional public interest requirement).

76. *Nat'l Res. Def. Team*, 857 F.3d at 1038 (summarizing EPA's explanation for registration). A pesticide's application rate relates to the amount of active ingredients present, whereas its mobility is the amount of a particular substance released into the external environment. *Id.* (explaining EPA findings).

77. *Id.* (clarifying scope of petitioners' challenge).

mining that the registration would benefit the public interest.⁷⁸ The EPA had based its public interest findings on two assumptions: (1) the free market will replace similar silver pesticides with NSPW, and (2) the increased use of NSPW will not increase the total amount of silver exposed to the environment.⁷⁹ The court determined the EPA did not base either of these assumptions on specific evidence found in the record.⁸⁰ Finally, the court held the “public interest” requirement to be a stricter test because it requires a showing that the pesticide is in the public interest before it can be conditionally registered.⁸¹

IV. THE WINDS OF WINTER: A NARRATIVE ANALYSIS OF THE NINTH CIRCUIT’S REBUKE OF DICAMBA’S REGISTRATION

In *National Family Farm Coalition*, the Ninth Circuit examined the EPA’s 2018 registration of three OTT dicamba products: Extendimax, FeXapan, and Engenia.⁸² Petitioners challenged the 2018 registration on two grounds — violation of FIFRA and the Endangered Species Act.⁸³ The Ninth Circuit reviewed the two requirements for conditional registration, which include (1) satisfactory data, and (2) no significant increase in the risk of unreasonable adverse events.⁸⁴

A. Satisfactory Data

The Ninth Circuit began by examining whether substantial evidence supported the EPA’s contention that the applicants submitted satisfactory data.⁸⁵ When registering the OTT dicamba products, the EPA used data including field studies from both the

78. *Id.* at 1038-42 (discussing case holding).

79. *Id.* at 1039 (stating EPA’s public interest explanation).

80. *Id.* at 1040 (rejecting assumptions made by EPA in support of registration). The court took issue with the EPA’s assumption that NSPW use would increase while simultaneously rejecting the possibility of an aggregate increase in silver exposure. *Id.* at 1139-40 (identifying inconsistency in EPA assumptions).

81. *Nat’l Res. Def. Team*, 857 F.3d at 1041-42 (declining EPA’s position that even potential benefits to public interest are sufficient).

82. *Nat’l Fam. Farm Coal. v. U.S. Env’t Prot. Agency*, 960 F.3d 1120, 1131 (9th Cir. 2020) (determining scope of review); *see also* FINAL DICAMBA REGISTRATION DECISION, *supra* note 30 (registering three separate OTT dicamba products).

83. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1124 (summarizing challenges against EPA).

84. *Id.* at 1133 (determining standard of review). For a discussion of the statutory guidelines creating the standard of review for FIFRA challenges against conditional registrations, *see supra* notes 57-58 and accompanying text.

85. *Id.* (beginning review by evaluating data submitted for conditional registration).

applicant and academia and incident reports.⁸⁶ The court assumed these items qualified as “data” and only reviewed their quality.⁸⁷

1. *Field Studies*

In support of the OTT dicamba registration, Monsanto, the manufacturer of ExtendiMax, submitted several field studies.⁸⁸ When granting the 2018 registration, the EPA considered the studies submitted in support of both the 2016 and 2018 registrations.⁸⁹ These studies were designed to test the volatility of OTT dicamba.⁹⁰

The Ninth Circuit first examined the studies submitted in the original 2016 registration decision.⁹¹ Monsanto conducted its own independent studies for its application.⁹² These studies, conducted on fields less than ten acres in size, compared the new OTT dicamba formulation’s volatility to older formulations.⁹³ Monsanto regarded these studies as the gold standard of volatility testing, claiming they “tested real-world volatility potential.”⁹⁴ Initially, the EPA agreed and accepted these studies when granting the 2016 registration.⁹⁵ The Ninth Circuit, however, criticized the EPA’s reliance on these studies because it understated volatility risks, and the EPA later acknowledged its conclusions regarding the studies were inaccurate.⁹⁶

The 2018 registration relied on the studies described above and included five additional Monsanto-derived studies.⁹⁷ Monsanto expanded the physical size of the studies; four of the studies were

86. *Id.* (identifying data used by EPA).

87. *Id.* (accepting EPA’s conclusion that submitted reports and studies are “data”).

88. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1133-35 (reporting studies used by EPA for conditional registration).

89. *Id.* at 1133 (examining studies submitted to EPA).

90. *Id.* at 1134 (stating purpose of studies). For a discussion of dicamba’s volatility, see *supra* notes 4, 12, 22 and accompanying text.

91. *Id.* (examining 2016 registration studies).

92. *Id.* (noting independent nature of studies). At that time, Monsanto did not allow third parties to use its OTT dicamba product to perform independent studies. *Id.* (finding Monsanto did not share OTT dicamba product or chemical formula for third party independent studies).

93. *Nat’l Fam Farm Coal.*, 960 F.3d at 1134 (stating parameters of original studies).

94. *Id.* (mentioning Monsanto’s remarks on volatility of submitted studies).

95. *Id.* (accepting studies to grant 2016 conditional registration).

96. *Id.* (explaining court’s hesitancy in accepting Monsanto studies). The court found the 2016 studies to be unreliable because millions of acres of dicamba damage were reported, contrary to the studies’ findings. *Id.* at 1135 (questioning results of 2016 studies).

97. *Id.* at 1135 (showing additional studies were submitted).

on fields between four and thirty-seven acres and one study was conducted on a one-hundred-acre farm.⁹⁸ The goal of the additional studies was to measure the amount of volatility and compare it to the 2016 results.⁹⁹ Despite these efforts, the Ninth Circuit was apprehensive in accepting the results of the additional studies because they sought to confirm the 2016 studies, which the court determined were inadequate.¹⁰⁰ Additionally, unlike the 2016 registration, the EPA reviewed third-party studies on OTT dicamba use when granting the 2018 conditional registration.¹⁰¹ Various universities conducted studies to evaluate the “spray drift and volatility of dicamba” on fields between ten and forty acres.¹⁰² Instead of confirming the EPA’s conclusion, the court found these studies showed the new OTT dicamba formulations “result[ed] in visible injury to plants.”¹⁰³

2. *Incident Reports*

The EPA also relied on Monsanto’s conclusion regarding incident reports.¹⁰⁴ After the 2016 registration, Monsanto received 1,002 reports of dicamba drift damage by July 2017 and an additional 468 reports by July 2018.¹⁰⁵ Monsanto reviewed 450 of these reports and found that its OTT dicamba product “caused few if any incidents of off-target movement.”¹⁰⁶ Monsanto concluded older formulations of dicamba used on adjacent corn fields were more likely to blame rather than OTT use.¹⁰⁷ The Ninth Circuit firmly rejected this argument, stating “[t]his explanation, however, is not supported by the data.”¹⁰⁸

98. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1135 (recognizing larger scope of 2018 studies).

99. *Id.* at 1134 (explaining purpose of Monsanto’s 2018 studies).

100. *See id.* at 1135 (questioning EPA’s use of Monsanto’s studies). The court was skeptical of accepting studies confirming the 2016 results because large amounts of OTT dicamba drift damage occurred after these studies hypothesized drift damage would not occur. *Id.* (explaining skepticism about testing). For a discussion of the Ninth Circuit’s critique of the 2016 studies, see *supra* note 96 and accompanying text.

101. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1135 (reviewing field studies created by independent sources).

102. *Id.* (reporting use of outside testing for 2018 conditional registration application).

103. *Id.* (finding university studies weigh against registration).

104. *See id.* (identifying other evidence EPA relied on for 2018 registration).

105. *Id.* at 1134-35 (quantifying number of reports Monsanto received).

106. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1135 (emphasis removed) (quoting Monsanto’s internal conclusions on drift damage).

107. *Id.* (summarizing Monsanto’s denial of OTT dicamba damage).

108. *Id.* (rejecting Monsanto’s explanation of dicamba damage).

The court identified several reasons why the data did not support Monsanto's conclusions.¹⁰⁹ First, the older formulation of dicamba had been used for years and complaints of drift damage were routinely low.¹¹⁰ The court questioned why Monsanto was unable or unwilling to explain the sudden spike in dicamba complaints after the 2016 registration.¹¹¹ Second, the court identified a 2014 report by the U.S. Department of Agriculture demonstrating the use of dicamba by corn farmers has been steadily decreasing.¹¹² If corn farmers' dicamba use was to blame, this data would suggest that dicamba complaints would have decreased in correlation with the decrease in use by corn farmers.¹¹³ Finally, the court grappled with Monsanto's claim that "because of the increased publicity surrounding the new dicamba formulations," farmers were noticing damage that had been present for years.¹¹⁴ Monsanto could not produce any evidence to support that statement, resulting in the claim's rejection.¹¹⁵ Furthermore, there was no evidence that Monsanto attempted to confirm this theory by reaching out to the farmers complaining of drift damage.¹¹⁶

3. Conclusion on Satisfactory Data

The Ninth Circuit admitted that "the data ha[d] several flaws."¹¹⁷ The court considered the data presented to the EPA for the 2018 registration was Monsanto's attempt to confirm the data supporting the 2016 registration.¹¹⁸ Additionally, the court was aware that following the 2016 registration, farmers reported millions of acres of dicamba damage.¹¹⁹ Despite these issues, the Ninth Circuit held it "need not decide whether substantial evidence

109. *Id.* (discovering multiple inconsistencies with Monsanto's report).

110. *Id.* (discussing low complaints prior to OTT dicamba registration).

111. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1135 (examining Monsanto's lack of explanation over spike in reports).

112. *Id.* (presenting Department of Agriculture data). By 2012, dicamba use amongst corn growers had dropped to twelve percent, creating disbelief that they were behind the sudden spike in dicamba complaints. *Id.* (reporting extent of dicamba use by maize farmers).

113. *See id.* (questioning whether dicamba use from corn farmers could cause increase in complaints).

114. *Id.* (evaluating Monsanto's explanation on increase of complaints).

115. *Id.* (observing Monsanto produced no evidence to support its claims).

116. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1135 (determining Monsanto made no attempt to substantiate its claim).

117. *Id.* at 1124 (finding data submitted was flawed).

118. *Id.* at 1135 (framing use of 2018 registration data).

119. *Id.* (doubting relevance of confirmatory data when 2016 registration resulted in large scale crop damage).

supports the EPA's conclusion" because it found that OTT dicamba use failed the second FIFRA requirement of no significant increase in unreasonable adverse effects on the environment.¹²⁰

B. Unreasonable Adverse Effects on the Environment

After reviewing the data presented to the EPA, the Ninth Circuit examined whether the EPA had sufficiently evaluated the potential environmental risks.¹²¹ To grant conditional registration of a pesticide, the EPA must find that the registration "would not significantly increase the risk of any unreasonable effect on the environment" by "taking into account the economic, social, and environmental costs and benefits."¹²² The Ninth Circuit found that the EPA erred in two ways: by understating acknowledged risks and by failing to identify other risks.¹²³ The court ultimately held the EPA had violated FIFRA and revoked the registration because of these errors.¹²⁴

1. Understatement of Risks

In its analysis, the court examined the EPA's registration decision to determine if it took all adverse effects into account.¹²⁵ The EPA identified risks to non-dicamba-tolerant soybeans, dicamba sensitive crops, and "landscape" risks.¹²⁶ The Ninth Circuit, however, identified three areas of risks the EPA understated: (1) the amount of dicamba tolerant (DT) seeds planted; (2) accuracy of dicamba damage reporting; and (3) refusal to quantify damage.¹²⁷

As the amount of farmers planting DT soybeans increases, so too does the use of OTT dicamba because DT soybeans are immune to the pesticide's effects.¹²⁸ The EPA relied on Monsanto's

120. *Id.* (deciding against making holding on sufficiency of data). For a discussion of the Ninth Circuit's analysis of the second FIRA requirement, see *infra* notes 121-72 and accompanying text.

121. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1136 (beginning analysis of second FIFRA requirement).

122. *Id.* (quoting FIFRA for standard of review). For a discussion of the FIFRA statutory requirements, see *supra* notes 47-58 and accompanying text.

123. *Nat'l Family Farm Coal.*, 960 F.3d at 1136 (summarizing EPA's errors). For a discussion of how the Ninth Circuit came to its conclusion, see *infra* notes 121-172 and accompanying text.

124. *Nat'l Family Farm Coal.*, 960 F.3d at 1145 (holding EPA violated FIFRA and vacating registration).

125. *Id.* at 1136-44 (reviewing EPA's risk analysis).

126. *Id.* at 1136 (recognizing EPA's risk classifications).

127. *Id.* at 1136-39 (finding three ways EPA understated risks).

128. See *id.* at 1136 (estimating if amount of dicamba tolerant seeds is underestimated, so too will be amount of dicamba used).

report estimating that forty million acres of land will be occupied by DT soybeans.¹²⁹ The Ninth Circuit summarily rejected the EPA's conclusion, finding this reliance improper.¹³⁰ The court reasoned that the registration decision was made in October 2018, well after the growing season ended; therefore, the EPA could have discovered the actual amount of DT soybeans used.¹³¹ The record also indicated that at least fifty million acres of DT soybeans were planted.¹³² Based on these facts, the court found the EPA understated the amount of dicamba applied by at least twenty-five percent.¹³³

Next, the court examined the EPA's conclusions regarding the accuracy of complaints about dicamba damage.¹³⁴ The EPA stated that complaints to state departments of agriculture could have been either "under-reported or over-reported."¹³⁵ The Ninth Circuit disagreed and found the EPA's belief lacked substantial supporting evidence.¹³⁶ In its registration document, the EPA included data representing the number of complaints state agriculture departments received from 2013 to 2018.¹³⁷ From 2013 to 2016, annual complaints never exceeded 1,250; however, after the OTT dicamba registration, complaints increased sharply to three thousand in 2017 and 2,250 in 2018.¹³⁸ Despite this increase, the court found the EPA offered no explanation for the rise in drift damage complaints.¹³⁹

Instead of examining the increase in complaints, the EPA attributed the rise to an over-reporting of damages.¹⁴⁰ The EPA admitted that many industry leaders believed the number of

129. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1136 (determining how EPA estimated amount of dicamba tolerant seeds).

130. *Id.* (rejecting EPA's estimate).

131. *Id.* at 1136 (challenging EPA for not creating their own estimate). By the time the registration decision was made, the EPA had the ability to conduct an estimate regarding the amount of DT seeds used rather than rely exclusively on Monsanto's estimations. *See id.* (claiming EPA could have estimated number of DT seeds planted).

132. *Id.* (indicating actual amount of DT soybeans planted in 2018).

133. *Id.* at 1136-37 (approximating understatement of dicamba application).

134. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1137-38 (reviewing EPA's conclusions).

135. *Id.* at 1137 (providing EPA's belief on dicamba damage reports).

136. *Id.* (declining to follow EPA's conclusions).

137. *Id.* (explaining data EPA used in dicamba registration document). This data was not limited to dicamba drift damage, and instead included complaints concerning all herbicide drift damage. *Id.* (qualifying complaint data).

138. *Id.* (identifying data EPA relied on).

139. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1137 (chastising lack of explanation given in conditional registration decision).

140. *Id.* (stating EPA's basis for registration).

complaints were underreported, but “[o]thers believe[d] that there may be issues of overreporting.”¹⁴¹ The Ninth Circuit discovered the “others” the EPA referred to was none other than Monsanto.¹⁴² Recognizing the conflict of interest, the court was doubtful of Monsanto’s beliefs considering the questionable studies Monsanto presented in its applications.¹⁴³ A review of the evidence of dicamba damage confirmed the Ninth Circuit’s skepticism.¹⁴⁴ The court found multiple independent assessments that supported the belief that dicamba damage was underreported.¹⁴⁵ These reports theorized that the underreporting was due in part because of a reluctance by farming communities to involve governmental agencies.¹⁴⁶

The EPA made no attempt to quantify the amount of damage OTT dicamba caused, nor would it admit any damage occurred.¹⁴⁷ In its registration decision, EPA officials declined to estimate the damages, claiming they lacked sufficient data.¹⁴⁸ The court rejected this notion, concluding the EPA had the requisite information to quantify dicamba damage.¹⁴⁹ The Ninth Circuit identified internal EPA presentations and emails, academic studies, and news articles discussing the extent of dicamba damage.¹⁵⁰ Based on these sources, the court concluded the EPA possessed enough in-

141. *Id.* (emphasis in original) (quoting EPA registration decision).

142. *Id.* (investigating EPA’s claims).

143. *Id.* (questioning EPA’s reliance on Monsanto reports). For a discussion of the Ninth Circuit’s examination of Monsanto’s reports, see *supra* notes 104-116.

144. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1137-38 (reviewing third party studies on dicamba drift damage).

145. *Id.* (summarizing results of outside studies on dicamba damage reporting). A professor at the University of Iowa found less than twenty-five percent of dicamba cases were reported, and the Indiana Director of Quality Assurance estimated only ten percent of dicamba injuries were reported to her office. *Id.* (emphasizing industry belief in dicamba damage underreporting).

146. *Id.* at 1138 (hypothesizing cause of underrepresentation of dicamba damage complaints).

147. *Id.* (criticizing EPA’s decision report). Although the EPA acknowledged OTT dicamba can cause damage, it only regarded the damage as “potential.” *Id.* (reviewing registration decision).

148. *Id.* (quoting EPA’s explanation).

149. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1138 (denying claims of lack of quantitative data).

150. *Id.* at 1138-39 (discovering multiple sources of quantitative damage). The EPA’s Acting Chief of the Herbicide Branch of the Pesticide Program admitted in an internal meeting that 3.6 million acres of soybeans were damaged by dicamba. *Id.* (finding EPA possessed dicamba damage data).

formation to estimate the amount of dicamba damage that occurred.¹⁵¹

2. *Failure to Identify Risks*

The Ninth Circuit also found the EPA failed to identify certain risks, some of which the Agency was statutorily required to consider.¹⁵² The court identified two risks the EPA failed to consider: (1) non-compliance with label requirements, and (2) social and economic costs.¹⁵³ These errors were so substantial the court found that it must vacate the registration.¹⁵⁴

In 2018, the EPA added stricter label requirements for OTT dicamba, dictating when and how it could be applied.¹⁵⁵ The 2018 registration label specifically mandated when OTT dicamba could be applied based on the time of day, temperature, wind speed, and future weather conditions.¹⁵⁶ The court, however, found it virtually impossible to abide by the label's requirements.¹⁵⁷ More specifically, the court examined a study finding that even with strict adherence to the label requirements, there were only forty-seven hours during June 2018 when OTT dicamba could be legally applied.¹⁵⁸ The court concluded the EPA erred by not considering the diffi-

151. *Id.* at 1138 (discovering EPA could have calculated dicamba damages). The Ninth Circuit clarified that the EPA had enough information to, at the very least, estimate the damage even if the exact number was not possible to establish. *Id.* (emphasizing exact quantity of soybean damaged was not required).

152. For a discussion of the risks the EPA failed to recognize, see *infra* notes 155-72 and accompanying text.

153. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1139-44 (summarizing risks EPA failed to consider).

154. For a discussion of why the court vacated the registration, see *infra* notes 173-78 and accompanying text.

155. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1139-40 (discussing label requirements). There have been three increasingly restrictive OTT dicamba labels. *Id.* (finding different OTT dicamba labels). The first label was included in the 2016 registration, the second label was created after dicamba damage was reported in the 2016 growing season, and the third label was required for the 2018 registration. See *id.* (outlining history of OTT dicamba label); see also FINAL DICAMBA REGISTRATION DECISION, *supra* note 30 (requiring additional label requirements for registration).

156. *Nat'l Fam. Farm Coal.*, 960 F.3d at 1139-40 (listing 2018 label requirements).

157. *Id.* at 1140-41 (finding broad concerns over large quantity of label restrictions). The label requirements were so onerous that farmers had difficulty knowing when they were allowed to spray OTT dicamba. *Id.* (summarizing complexity of label requirements). The EPA also updated the label requirements in 2017 and 2018, making it even more difficult for farmers to comply with the law. *Id.* at 1141 (highlighting labeling requirement changes over time).

158. *Id.* at 1141 (reviewing academic study on OTT dicamba label requirements). The EPA was aware of this study, and it was internally circulated. *Id.* (documenting EPA Director forwarded results of study to colleagues).

culty presented by the label requirements and the likelihood of non-compliance.¹⁵⁹

Next, the Ninth Circuit reviewed whether the EPA considered the “economic, social, and environmental costs and benefits” as required by FIFRA.¹⁶⁰ The court found no evidence the EPA considered these costs.¹⁶¹ Instead, the court identified economic costs, described as “virtually certain” to occur, created by the conditional registration of dicamba.¹⁶² Particularly worrisome was the likelihood of a near market monopoly by manufacturers of DT soybeans.¹⁶³ By manufacturing both OTT dicamba and DT seeds, Monsanto would effectively force all soybean farmers to purchase its DT soybeans to protect crops from drift damage.¹⁶⁴ Further justifying this fear, the court found that two years after the 2016 registration of OTT dicamba, fifty percent of the U.S. soybean market used DT seeds.¹⁶⁵ Additionally, the court examined remarks from several industry executives and professors who were concerned about dicamba’s effects on the marketplace.¹⁶⁶

Next, the court reviewed various social costs the EPA failed to consider.¹⁶⁷ The court’s examination found “that OTT application of dicamba herbicides has torn apart the social fabric of many farming communities.”¹⁶⁸ Citing interviews of farmers, the court identified several farming communities strained by OTT dicamba use.¹⁶⁹ These interviews revealed that the increasing prevalence of OTT dicamba use pits neighbors against one another when drift damage

159. *Id.* at 1142 (concluding EPA should have identified label risks).

160. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1142-45 (reviewing additional risk factors); 7 U.S.C. § 136(bb) (determining standard of review).

161. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1142 (holding EPA failed to consider statutorily-required factors).

162. *Id.* (independently reviewing potential economic costs).

163. *Id.* at 1142-43 (explaining how OTT dicamba registration could lead to near monopoly).

164. *See id.* (outlining how OTT dicamba registration could monopolize soybean market).

165. *Id.* at 1142 (citing growing evidence of DT soybean seeds’ market dominance).

166. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1142 (relying on industry experts to support court’s conclusions). The consensus among industry experts was that once OTT dicamba is registered and used, farmers would be forced to purchase DT seeds to avoid drift damage to their crops. *Id.* (summarizing concerns of industry).

167. *Id.* at 1143 (examining possible social costs).

168. *Id.* (underscoring negative effect on communities due to OTT dicamba usage).

169. *Id.* (quoting farmers and news reports).

occurs.¹⁷⁰ Once plant injury has occurred, farmers and homeowners receive little to no help from the applicators of OTT dicamba, creating anger and resentment within the community.¹⁷¹ In an extreme example, an argument over dicamba damage resulted in the shooting and death of an Arkansas farmer.¹⁷²

C. Remedy

After considering the above errors by the EPA, the Ninth Circuit held that no “substantial evidence” existed to support the 2018 conditional registration of OTT dicamba.¹⁷³ The court agreed with the EPA’s assessment of OTT dicamba’s benefits, but took issue with the inadequate evaluation of its risks.¹⁷⁴ Despite this conclusion, the EPA argued that even if it was in violation of FIFRA, the court should remand without vacatur, leaving the registration in place.¹⁷⁵ Remand without vacatur, however, is offered “only in limited circumstances.”¹⁷⁶ The Ninth Circuit did not heed the EPA’s advice and ordered the registration of OTT dicamba to be vacated.¹⁷⁷ In support of this decision, the court stated the flaws in the EPA’s registration were so substantial that it was unlikely the Agency would succeed on remand.¹⁷⁸

V. GIMME SHELTER: A CRITICAL ANALYSIS

In determining that the OTT dicamba registration should be vacated, the Ninth Circuit presented an extensive and welcomed analysis of the FIFRA requirements.¹⁷⁹ By grounding its conclusion in both the economic and social risks the EPA failed to consider, the court endorsed a holistic approach to the FIFRA obligations

170. *Id.* (displaying how disagreements originate).

171. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1143 (showing how disputes can arise from OTT dicamba use).

172. *Id.* (noting physical attacks resulting from dicamba use).

173. *Id.* at 1144 (holding EPA violated FIFRA).

174. *Id.* (explaining court’s reasoning behind holding).

175. *Id.* (presenting EPA’s argument on appropriate remedy); Brief of EPA, *supra* note 36, at *73-76 (arguing appropriate remedy is remand without vacatur).

176. *Nat’l Fam. Farm Coal.*, 960 F.3d at 1144 (quoting Pollinator Stewardship Council v. U.S. Env’t Prot. Agency, 806 F.3d 520, 532 (9th Cir. 2015)) (reinforcing that vacating registration is usual remedy).

177. *Id.* at 1145 (holding correct remedy is to vacate 2018 registration of OTT dicamba).

178. *Id.* (supporting decision to vacate registration).

179. For a discussion of how the court evaluated whether the OTT dicamba registration satisfied FIFRA, see *supra* notes 85-172 and accompanying text.

and deemphasized economic benefits flowing to manufacturers.¹⁸⁰ A downside to this approach is that although the court went to great lengths to discuss the data the EPA submitted, it did not define what “satisfactory data” means in the context of FIFRA.¹⁸¹

Although courts are growing stricter with FIFRA requirements, there have been no efforts to interpret what is needed to submit “satisfactory data.”¹⁸² The conclusions in both *Pollinator* and *National Resource Defense Team* were based in part on insufficient data, but the courts failed to define what constitutes satisfactory data.¹⁸³ This pattern continued in *National Family Farm Coalition* when the Ninth Circuit declined to rule on the issue of “satisfactory data” despite the opportunity to clarify this statutory requirement.¹⁸⁴ In its 2018 registration, the EPA relied on faulty studies, presented few additional studies, and ignored data from impartial third parties showing extensive OTT dicamba damage.¹⁸⁵ Furthermore, the EPA ignored the dramatic increase in incident reports based largely on Monsanto’s objections.¹⁸⁶ The court emphasized these weaknesses by concluding Monsanto’s data was flawed, yet the court still refused to make a definitive statement on the matter.¹⁸⁷ By clarifying what “satisfactory data” entails, the Ninth Circuit could have proactively worked toward ensuring proposed pesticides have a limited chance of harming the environment.¹⁸⁸

At the very least, this case presented the Ninth Circuit with a perfect opportunity to encourage the use of independent studies to

180. For a discussion of the risks the EPA did not consider, see *supra* notes 155-72 and accompanying text.

181. For a discussion of the court’s analysis of the data the EPA relied on to grant conditional registration of OTT dicamba, see *supra* notes 88-116 and accompanying text.

182. For a discussion of previous case law interpreting FIFRA, see *supra* notes 63-81 and accompanying text.

183. For a discussion summarizing prior judicial interpretation of FIFRA, see *supra* notes 63-81 and accompanying text.

184. For a discussion of why the Ninth Circuit did not make a determination regarding the data the EPA relied on, see *supra* note 120 and accompanying text.

185. For a discussion of the field studies the EPA cited in its 2018 registration and the court’s critical analysis of these studies, see *supra* notes 88-103 and accompanying text.

186. For a discussion of the Ninth Circuit’s analysis of the EPA’s indifference towards the increased incident reports, see *supra* notes 104-16 and accompanying text.

187. See *Nat’l Fam. Farm Coal. v. U.S. Env’t Prot. Agency*, 960 F.3d 1120, 1124 (9th Cir. 2020) (concluding EPA’s data was flawed).

188. For a discussion of the harms resulting from the OTT dicamba registration, see *supra* notes 119, 205 and accompanying text.

supplement industry reports.¹⁸⁹ The EPA relied heavily on studies produced by OTT dicamba manufacturers, while largely ignoring independent third party studies showing extensive drift damage.¹⁹⁰ A statement by the court encouraging or even requiring the use of independent studies would decrease reliance on manufacturers with inherent conflicts of interest.¹⁹¹ In *National Family Farm Coalition*, utilizing third-party data would have forced the EPA to confront the mountain of evidence that directly conflicted with Monsanto's belief that the volatility of OTT dicamba was not an issue.¹⁹²

Additionally, had the Ninth Circuit ruled on the type of data needed for conditional registration, this would have provided pesticide manufacturers with valuable guidance for their research and development departments.¹⁹³ Many of the issues prevalent in the OTT dicamba application resulted from Monsanto's inadequate testing.¹⁹⁴ If prior courts had identified the scope of "satisfactory data," Monsanto could have evaluated the sufficiency and completeness of its studies before submitting its application.¹⁹⁵ As a result, Monsanto may have been able to identify and remove deficiencies prior to submission, resulting in more adequate data presented to the EPA.¹⁹⁶ By setting a standard for sufficient data, courts could incentivize improvements in pesticide safety by encouraging manufacturers to refine their products to protect the environment adequately.¹⁹⁷

Overall, the Ninth Circuit's examination of FIFRA should be applauded for ensuring the EPA follows all of the statutory require-

189. For a discussion of the data the EPA relied on, see *supra* notes 88-116 and accompanying text.

190. For a discussion of independent reports and studies on OTT dicamba damage, see *supra* notes 101-03, 145 and accompanying text.

191. For a discussion of the benefits of confirming industry studies with independent data, see *supra* notes 101-03, 145 and accompanying text.

192. For a discussion comparing independent studies to Monsanto data, see *supra* notes 101-03, 145 and accompanying text.

193. For a discussion of the studies Monsanto provided to the EPA, see *supra* 88-99 and accompanying text.

194. For a discussion of the data Monsanto provided to the EPA, see *supra* 88-99 and accompanying text.

195. For a discussion of the Ninth Circuit's reasoning as to why it did not define "satisfactory data," see *supra* note 120 and accompanying text.

196. For a discussion of the data Monsanto provided to the EPA, see *supra* 88-99 and accompanying text.

197. For a discussion of FIFRA's intent, see *supra* notes 49 and accompanying text.

ments.¹⁹⁸ Considering the current state of the conditional registration framework, however, it would have been beneficial for the court to elaborate on what type of data is satisfactory.¹⁹⁹ Conditional registrations have been used far more frequently than Congress intended, and sufficient oversight is lacking.²⁰⁰ Conditional registrations permit the use of thousands of pesticides, and if the EPA's normal standard of review is anything similar to the OTT dicamba application, the resulting environmental harm could be significant.²⁰¹ In light of this and the lesser statutory requirements conditional registrations must follow, it is critical that courts strictly apply FIFRA requirements when the EPA fails to do so.²⁰²

VI. THE WIND CRIES MARY: THE IMPACT OF *NATIONAL FAMILY FARM COALITION* ON FUTURE LITIGANTS

The Ninth Circuit's decision in *National Family Farm Coalition* forced the EPA to bar future sales of OTT dicamba.²⁰³ This decision could not come fast enough considering the widespread damage OTT dicamba caused.²⁰⁴ Examining only eighteen of the thirty-four states that use OTT dicamba, the most recent estimate from mid-2018 approximates that 1.1 million acres of soybeans were damaged.²⁰⁵ The Ninth Circuit's decision to vacate the OTT dicamba registration ended this dangerous use, providing farmers with a reprieve from its noxious effects.²⁰⁶

OTT dicamba manufacturers were not deterred from the court's rebuke; Monsanto quickly applied for new registrations and in October 2020, the EPA shockingly granted *nonconditional* regis-

198. For the Ninth Circuit's holding regarding the FIFRA claim, see *supra* notes 122-24 and accompanying text.

199. For a discussion of the conditional registration system, see *supra* notes 59-62 and accompanying text.

200. Lau, *supra* note 59 (finding Congress intended conditional registrations to be used sparingly).

201. GAO REPORT, *supra* note 60 (estimating amount of conditionally registered pesticides granted).

202. For a discussion of the requirements of conditional registrations versus nonconditional registrations, see *supra* notes 47-58 and accompanying text.

203. For a discussion of the remedy the Ninth Circuit implemented, see *supra* notes 173-78 and accompanying text.

204. See *Nat'l Fam. Farm Coal. v. U.S. Env't Prot. Agency*, 960 F.3d 1120, 1128 (9th Cir. 2020) (summarizing damage during 2018 growing season).

205. *Id.* (estimating amount of damage midway through 2018 growing season).

206. For a discussion of the incident reports of dicamba damage the court examined, see *supra* notes 104-16 and accompanying text.

tration of OTT dicamba use for a term of five years.²⁰⁷ The *National Family Farm Coalition* decision only pertains to the 2018 conditional registration, so the EPA still had full authority to register future applications it deemed acceptable.²⁰⁸ This decision is astonishing considering the stricter nonconditional registration standards and the Ninth Circuit's finding that it was unlikely Monsanto could acquire satisfactory data to fix the issues with the 2018 conditional registration.²⁰⁹ Further complicating the issue, the EPA granted the nonconditional approval just six days before the 2020 presidential election, raising fears of undue political influence.²¹⁰ An Inspector General Report confirmed these fears, finding the 2018 nonconditional dicamba registration strayed from EPA protocols and was a result of political influence.²¹¹

Despite the subsequent nonconditional registration, the *National Family Farm Coalition* decision can still have a profound impact on future pesticide litigation.²¹² First, the Ninth Circuit's meticulous approach in writing its opinion will serve as an example to future courts.²¹³ The NFFC has already challenged the 2020 nonconditional registration.²¹⁴ The reviewing court can use the

207. U.S. ENV'T PROT. AGENCY, EPA-HQ-2020-0492, MEMORANDUM SUPPORTING DECISION TO APPROVE REGISTRATION FOR THE USES OF DICAMBA ON DICAMBA TOLERANT COTTON AND SOYBEAN (Oct. 27, 2020) (approving nonconditional registration).

208. For a discussion of the scope of the *National Family Farm Coalition* lawsuit, see *supra* notes 83-84 and accompanying text.

209. For a discussion of nonconditional registration, see *supra* notes 52-58 and accompanying text. For a discussion of the Ninth Circuit's perspective on future OTT dicamba applications, see *supra* note 178 and accompanying text.

210. See *infra* note 211 (noting political interference). The EPA Administrator under the Trump Administration, Scott Wheeler, criticized the Ninth Circuit's decision for threatening the livelihood of farmers and the global food supply. Jonathon Hettinger, *In Apparent Rejection of Federal Court, EPA Allows Continued Dicamba Use*, MIDWEST CTR. FOR INVESTIGATIVE REPORTING (June 9, 2020), <https://investigatamidwest.org/2020/06/09/in-apparent-rejection-of-federal-court-epa-allows-continued-dicamba-use/> (reporting fallout of *National Family Farm Coalition* decision).

211. U.S. ENV'T PROT. AGENCY OFF. INSPECTOR GEN., REPORT NO. 21-E-0146, EPA DEVIATED FROM TYPICAL PROCEDURE IN ITS 2018 DICAMBA PESTICIDE REGISTRATION DECISION, 9-11 (May 24, 2014) (investigating EPA's dicamba registration). The Inspector General Report specifically cited an internal email stating the 2018 registration decision was an example of when "political interference sometimes compromised the integrity of our science." *Id.* at 21-22 (finding internal belief from EPA of political influence in dicamba registration).

212. For a discussion of the 2020 nonconditional OTT dicamba registration, see *supra* notes 207-11 and accompanying text.

213. For an analysis of the Ninth Circuit's examination of FIFRA in *National Family Farm Coalition*, see *supra* notes 82-172 and accompanying text.

214. Petition for Review at 2, Nat'l Fam. Farm Coal. et al. v. U.S. Env't Prot. Agency, 960 F.3d 1120 (9th Cir. 2020) (No. 20-73750), <https://aglaw.psu.edu/wp->

National Family Farm Coalition decision to assess whether the non-conditional registration took the appropriate steps to cure the 2018 registration's deficiencies.²¹⁵ If the Ninth Circuit's prediction is correct, then the 2020 nonconditional registration has little hope of surviving.²¹⁶

Second, the *National Family Farm Coalition* decision continues in a line of cases reinforcing the statutory requirements of FIFRA.²¹⁷ The EPA overuses conditional registrations and lacks appropriate oversight; despite these problems, courts have yet to intervene and correct these issues.²¹⁸ Activists have historically found FIFRA claims hard to win when challenging a pesticide the EPA has registered.²¹⁹ The Ninth Circuit's holding provides hope that courts will support activists' interests when the EPA fails to evaluate potentially harmful pesticides.²²⁰ Moreover, if courts continue in the footsteps of *National Family Farm Coalition*, similar holdings will influence the EPA to apply stricter oversight of conditional registrations, keeping in line with Congress' intent.²²¹

Finally, the risks the Ninth Circuit identified as being ignored provide novel factors for the EPA to consider.²²² FIFRA requires the EPA to evaluate environmental costs against the potentially vast economic benefits.²²³ The court looked beyond potential costs and benefits to farmers and manufacturers alone, criticizing the EPA for ignoring the impact the registration could have on the market as a

content/uploads/2021/03/NFFC-v.-EPA-2nd-lawsuit-12.21.20-Petition-for-Review.pdf (requesting nonconditional registration to be vacated).

215. For a discussion of the errors in the 2018 registration, see *supra* notes 121-72 and accompanying text.

216. *Nat'l Fam. Farm Coal. v. U.S. Env't Prot. Agency*, 960 F.3d 1120, 1145 (9th Cir. 2020) (predicting failure for application on remand).

217. For a discussion of prior case law enforcing FIFRA, see *supra* notes 63-81 and accompanying text.

218. For a discussion of the original intent of FIFRA and its oversight, see *supra* notes 59-62 and accompanying text.

219. Jonathon Hettinger, *Controversial Herbicide Dicamba no Longer Legal, Federal Court Rules*, MIDWEST CTR. FOR INVESTIGATIVE REPORTING (June 3, 2020), <https://investigatamidwest.org/2020/06/03/controversial-herbicide-dicamba-no-longer-legal-federal-court-rules/> (describing state of FIFRA).

220. For a discussion of the EPA's improprieties when granting the 2018 conditional registration, see *supra* note 211 and accompanying text.

221. For a discussion of the original intent of conditional registration, see *supra* note 59 and accompanying text.

222. For a discussion of the risks the EPA failed to identify, see *supra* notes 152-72 and accompanying text.

223. For a discussion of the standards of FIFRA, see *supra* notes 47-50 and accompanying text. For a discussion of the economic value of soybean farming in the United States, see *supra* note 1 and accompanying text.

whole.²²⁴ By reducing the emphasis on individual economic effects, courts can help mitigate potential market monopolies in the future while appropriately grounding the analysis in FIFRA's central focus — environmental protection.²²⁵ Similarly, judicial focus on social costs will ensure that this part of FIFRA is not ignored in future cases.²²⁶ As the Ninth Circuit's opinion explains, the effects of pesticide use are not limited to the four corners of a farm.²²⁷ Focusing on this issue forces the EPA to consider the real harms communities face when the Agency fails to identify environmental risks.²²⁸ Ideally, *National Family Farm Coalition* and future FIFRA decisions will ensure the EPA takes all of FIFRA's statutory requirements into account before it grants pesticide registrations.²²⁹

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224. For a discussion of the Ninth Circuit's examination of the market forces, see *supra* notes 162-66 and accompanying text.

225. For a discussion of the formation of market monopolies, see *supra* notes 163-65 and accompanying text.

226. For a discussion of the FIFRA requirement mandating a review of the social costs and benefits, see *supra* note 50 and accompanying text.

227. For a discussion of additional harms OTT dicamba registration causes, see *supra* notes 167-72 and accompanying text.

228. For a discussion of the social harms that occurred after OTT dicamba registration, see *supra* notes 167-72 and accompanying text.

229. For a discussion of the factors the EPA failed to consider, see *supra* notes 152-72 and accompanying text.

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