

The Environment Deserves Better: EPA and Questionable Pesticide Registration

INTRODUCTION

It is no secret that the chemicals present in pesticides can damage environmental and human health.¹ Preventing this damage is why the process of registering pesticides is so crucial. In *National Family Farm Coalition v. U.S. Environmental Protection Agency*, the Ninth Circuit Court upheld the U.S. Environmental Protection Agency's (EPA) registration of the new pesticide Enlist Duo.² The court found that Enlist Duo's registration did not violate the Federal Insecticide, Fungicide, and Rodenticide Act's (FIFRA) registration standards or the Endangered Species Act (ESA) risk assessment for species in the target area.³ Additionally, the court held that, while EPA failed to comply with FIFRA's standards for the effects on monarch butterflies in the target area, it complied with all other species.⁴ The court accepted EPA's finding that, so long as Enlist Duo is used "under the conditions prescribed by the label," it does not cause unreasonable adverse effects on the environment.⁵ In assessing these findings, the court deferred to EPA's determination of best scientific evidence.⁶

In this In Brief, I will argue that it was an error for the court to defer so wholly to EPA. First, EPA premised Enlist Duo's registration on the unrealistic assumption of correct use in every application. Second, the court accepted EPA's determination of the best scientific evidence available, despite flaws in EPA's data and methodologies. The court should have been more stringent in its assessment of both EPA's assumptions and data. Allowing this level of deference leaves room for agencies to insufficiently collect data and analysis in support of

DOI: <https://doi.org/10.15779/Z38T43J38T>

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1. See generally Polyxeni Nicolopoulou-Stamati et al., *Chemical Pesticides and Human Health The Urgent Need for a New Concept in Agriculture*, FRONTIERS PUB. HEALTH (July 18, 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4947579/>; *Human Health Issues Related to Pesticides*, EPA, <https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/human-health-issues-related-pesticides> (last updated Feb. 16, 2021); *Position Statement - Pesticide and Cancer*, CANCER COUNCIL AUSTRALIA, https://wiki.cancer.org.au/policy/Position_statement_-_Pesticides_and_cancer (last visited Aug. 29, 2021).

2. *Nat'l Fam. Farm Coal. v. EPA*, 966 F.3d 893, 904 (9th Cir. 2020).

3. *Id.* at 906. The species within the target area are the monarch butterfly, milkweed, cotton, corn, and soybean fields. See *id.*

4. *Id.* at 930.

5. *Id.* at 916 (internal quotation marks omitted).

6. *Id.* at 923; see also Endangered Species Act of 1973 § 7, 16 U.S.C. § 1536.

pesticides and other products that may be harmful to environmental and human health.

I. BACKGROUND

A. Legal Background

The court's opinion in *Nat'l Family Farm* focused on the registration standards set forth by two acts: ESA and FIFRA.⁷ Congress implemented ESA to protect threatened and endangered species and the ecosystems in which they live.⁸ Using the "best scientific and commercial data available,"⁹ EPA must first conduct a risk assessment under ESA when registering a pesticide to determine its potential impact, beneficial or negative, on species and their ecosystems.¹⁰ Prior to permitting the use of a new pesticide, EPA must reach a "no effect" or "may affect" conclusion.¹¹ A "may affect" conclusion means that EPA must provide scientific evidence that the product "is not likely to adversely affect" the species listed in ESA prior to permitting its use.¹² To reach a "no effect" conclusion, EPA must determine that the "proposed action will not affect a listed species or . . . habitat."¹³ Under ESA, EPA can use mitigation measures to obtain a "no effect" assessment.¹⁴ Mitigation measures can include, but are not limited to, a downwind buffer, low-spray nozzle, and other label restrictions circumscribing the pesticide's use.¹⁵

Congress enacted FIFRA to regulate pesticides and herbicides for the health and safety of applicators, consumers, and the environment.¹⁶ Before a company can market a pesticide for public use, EPA must register the pesticide under FIFRA as well.¹⁷ Registration allows pesticides to be used as prescribed for a specified period of time, contingent on the type of pesticide and registration.¹⁸ FIFRA has two types of pesticide registration and both are discussed in *Nat'l Family Farm*. First, unconditional registration requires the EPA to show that the pesticide does not "cause any unreasonable adverse effects" and is the applicable

7. *Nat'l Fam. Farm*, 966 F.3d at 904.

8. 16 U.S.C. § 1533(b).

9. *See id.*

10. *See* 50 C.F.R. § 402.14 (2020). In this case, the species within the target area were monarch butterflies, milkweed, corn, soybean, and cotton. *See Nat'l Fam. Farm*, 966 F.3d at 906.

11. *See* U.S. FISH & WILDLIFE SERV. & NAT'L MARINE FISHERIES SERV., CONSULTATION HANDBOOK: PROCEDURES FOR CONDUCTING CONSULTATION AND CONFERENCE ACTIVITIES UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT XVI (1998).

12. *Id.*

13. *Id.*

14. *Nat'l Fam. Farm*, 966 F.3d at 901.

15. *Id.* at 927.

16. *Summary of the Federal Insecticide, Fungicide, and Rodenticide Act*, EPA, <https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act> (last updated July 31, 2020).

17. *Id.*

18. 7 U.S.C. § 136.

standard when a chemical in the proposed pesticide is already registered under FIFRA.¹⁹ Conditional registration requires a showing that the pesticide does not “significantly increase the risk of unreasonable adverse effects.”²⁰ The court in *Nat’l Family Farm* held that unconditional registration is a more stringent standard than conditional registration because unconditional registration requires EPA to consider *any* adverse effects, as opposed to an increase in the risk of adverse effects.²¹ Both standards, however, require the EPA to use the “best scientific data available.”²²

While EPA does not list how many pesticides are registered, the Pesticide Action Network estimates around “17,000 pesticide products are currently on the market.”²³ Despite the ostensibly rigorous screening process under FIFRA and ESA, the United States currently has seventy-two pesticides in use that are either banned or phased out in the European Union due to evidence of their potential harm.²⁴

B. Case Background

The controversy in *Nat’l Family Farm* stemmed from Enlist Duo. Enlist Duo combines two previously registered pesticides, 2,4-D and glyphosate. This combination delays weeds’ resistance, allowing farmers to disperse the pesticide later in the growing season, resulting in higher production.²⁵ In 2014, 2015, and 2017, EPA registered Enlist Duo under FIFRA, after completing the ESA risk assessment.²⁶ The National Family Farm Coalition, along with other farmer health and environmental organizations, challenged all three registrations for failing to satisfy FIFRA’s unconditional registration standard.²⁷ These challenges were consolidated into one proceeding before the Ninth Circuit in 2019.²⁸

The petitioners argued that EPA did not satisfy the unconditional registration standard required by FIFRA because it failed to use the best scientific data available.²⁹ Petitioners’ argument breaks down into four different parts: first, EPA failed to properly assess harms to monarch butterflies; second, EPA failed to consider that Enlist Duo would increase the use of glyphosate over time;

19. *Nat’l Fam. Farm*, 966 F.3d at 914.

20. *See id.* at 907; *Conditional Pesticide Registration*, EPA, <https://www.epa.gov/pesticide-registration/conditional-pesticide-registration> (last updated Aug. 4, 2020).

21. *Nat’l Fam. Farm*, 966 F.3d at 915.

22. *Id.* at 927.

23. *Pesticides 101*, PESTICIDE ACTION NETWORK – N. AM., <https://www.panna.org/pesticides-big-picture/pesticides-101> (last visited Aug. 2, 2021).

24. *See* Nathan Donley, *The USA Lags Behind Other Agricultural Nations in Banning Harmful Pesticides*, 18 ENV’T HEALTH 44, 47 (2019).

25. *Nat’l Fam. Farm*, 966 F.3d at 905.

26. *Id.* at 904.

27. *Id.* at 905.

28. *Id.* at 904.

29. *Id.* at 924–25.

third, EPA failed to correctly consider the volatility of 2,4-D; and fourth, EPA failed to consider the synergistic effects of mixing Enlist Duo with glufosinate.³⁰

Ultimately, the court agreed with petitioners that EPA failed to properly assess harms to monarch butterflies, noting that the agency did not investigate how killing milkweed on target fields would affect the butterflies prior to assessing adverse risks to the environment as a whole.³¹ However, the court held that EPA was compliant with the unconditional standard for all other claims, stating that EPA gathered enough data to support its conclusions that Enlist Duo would not “cause any unreasonable adverse effects” to the species and plants in the target area.³² As such, the court deferred to EPA’s judgment that it used the best available scientific data, a requirement of FIFRA.³³

II. ANALYSIS

The court erred in deciding that EPA was compliant with FIFRA, as EPA’s argument rested on a false premise of correct usage and because EPA failed to use the best scientific data available. The court’s holding in this case leaves the door open for easy pesticide registration because it gives full deference to EPA in deciding which “best scientific data” to use, which further harms environmental and human health.

A. Improper Use and Mitigation

Both the court’s and EPA’s conclusions rest on the false premise that pesticides are applied correctly, despite evidence showing that incorrect pesticide use occurs frequently enough to warrant further investigation.³⁴ According to EPA, correct use of Enlist Duo requires mitigation methods such as a “30-foot buffer zone . . . , including a prohibition on aerial application and specific nozzle, temperature, and wind speed requirements.”³⁵ When registering Enlist Duo for the third time in 2017, EPA reached a “no effect” conclusion for nineteen of the twenty-three species on the treated field with these mitigation measures in place.³⁶ To reach a “no effect” conclusion with the other four species under the registration standard, EPA required the implementation of additional mitigation

30. *Id.* at 916–21.

31. *Id.* at 917; *see also* Haley Samuelson-Couchman, *Monarchs and Milkweed*, IND. DEP’T OF NAT. RES., <https://www.in.gov/dnr/kids/5874.htm> (last visited Aug. 2, 2021) (stating that monarch butterflies are dependent on milkweed because milkweed is the only plant that monarchs can feed on).

32. *Nat’l Fam. Farm*, 966 F.3d at 916–21.

33. *Id.* at 925.

34. *See Common Causes of Pesticide Incidents*, EPA, <https://www.epa.gov/pesticide-incidents/common-causes-pesticide-incidents> (last updated June 1, 2021); *Pesticides Uses & Misuses*, ILL. DEP’T OF AGRIC., <https://www2.illinois.gov/sites/agr/Pesticides/Pages/Pesticides-Uses-Misuses.aspx> (last visited Aug. 2, 2021) (reporting that the Illinois Department of Agriculture received 546 pesticide misuse complaints in 2018).

35. *Nat’l Fam. Farm*, 966 F.3d at 927.

36. *Id.* at 906.

measures, including location-based label restrictions.³⁷ Thus, Enlist Duo was only safe to use on target areas if implemented correctly, following several mitigation measures that require farmers to modify when and how they use the pesticide.

Assuming the pesticide will be consistently used correctly is a fallacy because pesticides are often used incorrectly—in fact, EPA and many state governments have web pages dedicated to incorrect pesticide usage, stating that “incidents can result . . . when a pesticide is misused or used incorrectly.”³⁸ According to the 2018 report on pesticides by the National Pesticide Information Center, 1,759 pesticide incident reports were filed regarding harms to humans, animals, and the environment.³⁹ Thus, by EPA’s own admission and the findings of the National Pesticide Information Center, pesticides are not used correctly during every use, and this possibility should have been addressed by EPA and questioned by the court. Instead, the court and EPA were silent on the issue of incorrect application. FIFRA’s unconditional registration standard allows registration “only if it will ‘not generally cause unreasonable adverse effects on the environment’ ‘when used in accordance with widespread and commonly recognized practice.’”⁴⁰ Interpreting this language, the court should have required EPA to determine whether the correct usage is the “widespread and commonly recognized practice,” and submit evidence showing that incorrect usage happens minimally enough to justify the registration.⁴¹ Because correct usage requires users to implement so many mitigation measures prior to use, misuse is common.⁴² The lack of further assessment into impacts stemming from incorrect use signals insufficient and arbitrary investigation by the court.

B. Use of “Best Scientific Data Available”

Further, EPA did not use the best science available in their assessments as they were required to do under both FIFRA and ESA.⁴³ As required by both statutes, the court deferred to EPA to determine the best science used in reaching registration decisions.⁴⁴ Ostensibly, EPA has the expertise and know-how to direct the assessment for registration. However, this does not mean that the court needs to disregard logical and scientific inconsistencies. In *Kisor v. Wilkie*, the Supreme Court clarified the *Auer* deference standard, which states that courts

37. *Id.*

38. *Common Causes of Pesticide Incidents*, *supra* note 34.

39. NAT’L PESTICIDE INFO. CTR., 2018 ANNUAL REPORT (2018), <http://npic.orst.edu/reports/NPIC18AR.pdf>.

40. *Nat’l Fam. Farm*, 966 F.3d at 913.

41. *Id.*

42. *See Pesticides Uses & Misuses*, *supra* note 34; K. M. Singh, *Dangers of Pesticide Misuse Challenges and Strategies*, SSRN ELECTRONIC J. (Jan. 2012), https://www.researchgate.net/publication/251315403_Dangers_of_Pesticide_Misuse_Challenges_and_Strategies.

43. *See* 7 U.S.C. § 136 (FIFRA); 16 U.S.C. § 1536 (ESA).

44. *Nat’l Fam. Farm*, 966 F.3d at 914.

should defer to the agency's interpretation of its rule unless it is "plainly erroneous or inconsistent with the regulation."⁴⁵ In this case, the Court held that agencies should receive deference with regard to legitimately ambiguous rules.⁴⁶ The Court assesses what "legitimately ambiguous" means using a multifactor test; in order to be "legitimately ambiguous," the court must first "exhaust all the traditional tools of construction," determine if the agency's interpretation is reasonable, determine if Congress would have wanted interpretive issue resolved this way, and determine if the interpretation of the regulation implicates the agency's expertise, among a few other factors.⁴⁷ ESA requires EPA to use the best available science when registering pesticides, but EPA concededly used data that was out of line with current guidelines and unsound—this warrants the court to give less deference to the agency.⁴⁸ The dissent in *Nat'l Family Farm* also notes that courts "never suggested that agencies may rest their decisions on data that is scientifically unsound."⁴⁹

Throughout the opinion, the court referred to gaps in EPA's data and regarded certain scientific methods as insufficient but followed up such findings by saying they could not second-guess EPA.⁵⁰ With regards to the 2017 registration of Enlist Duo, the court stated that there were data gaps relating to the volatility of 2,4-D, or the chemical's "tendency to evaporate into a gas and drift to non-target plants."⁵¹ Petitioners argued that EPA failed to properly assess the chemical's tendency to drift onto plants outside the target field, saying EPA relied on a flawed study.⁵² Despite the fact that the EPA conceded that the study was limited and not in line with protocol laid out in the Ecological Effects Test Guidelines,⁵³ and the court admitted that "EPA's evaluation of 2,4-D volatility probably could have been better," the court stated they could not second-guess EPA's conclusion because determining best scientific data available "is itself a scientific determination" and not within the court's expertise.⁵⁴ While this is true when scientifically sound methods are used, that is not the case here. Because EPA "rel[ie]d on a scientifically indefensible method that generated speculative and unreliable estimates," the court should not have given EPA the normal level

45. *Kisor v. Wilkie*, 139 S. Ct. 2400, 2411 (2019) (quoting *Bowles v. Seminole Rock & Sand Co.*, 325 U.S. 410, 414 (1945)); see also Connor Raso, *The Supreme Court Curtails but Retains Agency Rule Deference – How Much Will It Matter?*, BROOKINGS (Sept. 24, 2019), <https://www.brookings.edu/research/the-supreme-court-curtails-but-retains-agency-rule-deference-how-much-will-it-matter/>; *Auer v. Robbins*, 519 U.S. 452 (1997).

46. *Kisor*, 139 S. Ct. at 2424.

47. David L. Portilla, *Kisor v. Wilkie: A New Limit on Agency Deference and its Implication for Banking Organizations*, A.B.A. (Jan. 14, 2020), https://www.americanbar.org/groups/business_law/publications/blt/2020/01/kisor-v-wilkie/.

48. *Nat'l Fam. Farm*, 966 F.3d at 918–19.

49. *Nat'l Fam. Farm*, 966 F.3d at 934 (Watford, J., dissenting).

50. See *id.* at 906, 920.

51. *Id.* at 918, 920.

52. *Id.* at 918–19.

53. *Id.* at 919.

54. *Id.* at 925.

of agency deference.⁵⁵ Instead, the court should have overturned EPA's findings because they were scientifically unsound and removed the unregistered pesticides whose registration relied on this data.

EPA's assessment of risk to species in the target field under ESA also failed to use the best scientific data available, as EPA's own methods were scientifically unsound. The National Academy of Sciences (NAS) regarded the risk quotient/levels of concern methodology used by EPA as "not scientifically defensible" because this method does not actually estimate the risk.⁵⁶ In fact, EPA did not dispute the findings or justify its reliance on this method.⁵⁷ Instead, NAS recommended EPA use a "probabilistic approach" which provides information about the "probability of an adverse effect."⁵⁸ Although the data for a probabilistic approach was not yet available, the substitution of "fundamentally flawed" data is not acceptable simply because it is technically the best available.⁵⁹ Despite the evidence suggesting insufficiencies, the court refused to challenge the conclusions of EPA.⁶⁰ As stated repeatedly by the court as their reasoning for this arbitrary acceptance of flawed conclusions, "what constitutes the best scientific data belongs to the agency's special expertise and warrants substantial deference."⁶¹ While deference to EPA is appropriate where the agency has justified its decision based on the data, in cases like *Nat'l Family Farm* where inconsistencies are present, the court should be more discerning.

The dissent in *Nat'l Family Farm* also questioned the majority's failure to assess EPA's methodologies. Before the court, EPA stated they continued to use the risk quotient methodology because the recommended probabilistic method had too many administrative burdens, ignoring NAS's warning that the method was scientifically unsound.⁶² EPA went on to say that interagency agreements make this approach permissible.⁶³ However, the statute requires the best scientific data available be used, regardless of pragmatic issues or interagency agreements.⁶⁴ Because EPA failed to use scientifically defensible data, EPA failed to meet the statutory requirements. The dissent goes on to say that "this is not what Congress intended when it required [agencies] to use the best scientific data available."⁶⁵ The dissent is correct—EPA should not have been allowed to supplant the "best scientific data" requirement with less burdensome methodologies.

55. *Id.* at 934 (Watford, J., dissenting).

56. *Id.* at 932.

57. *Id.* at 933.

58. *Id.* at 925 (majority opinion), 932 (Watford, J., dissenting).

59. *See id.* at 933 (Watford, J., dissenting).

60. *Id.* at 926.

61. *Id.* at 902, 925, 927.

62. *Id.* at 933 (Watford, J., dissenting).

63. *Id.*

64. *Id.*

65. *Id.*

CONCLUSION

The court erred in failing to properly assess EPA's findings regarding pesticide registrations by not questioning the assumptions and data EPA used to reach its "no effect" finding. The petitioners in *Nat'l Family Farm* challenged EPA's scientific determinations as insufficient and potentially harmful to environmental and human health.⁶⁶ Despite the court's acknowledgment that there were gaps in data and inadequacies in EPA's methodologies, the court upheld EPA's determinations and allowed Enlist Duo's registrations to stand.⁶⁷ The court did not fulfill its legal duty of assessing whether EPA used the best science available as intended by Congress.⁶⁸ This creates a dangerous precedent for future cases involving government agencies and provides no incentives for agencies to use reliable data. Such failings by the court need to be addressed sooner rather than later for the sake of environmental and human health.

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66. *See id.* at 916.

67. *See id.* at 906.

68. *See id.* at 900.

We welcome responses to this In Brief. If you are interested in submitting a response for our online journal, Ecology Law Currents, please contact cse.elq@law.berkeley.edu. Responses to articles may be viewed at our website, <http://www.ecologylawquarterly.org>.