



Re: Docket ID No. EPA-HQ-OEJECR-2024-0146 National Environmental Justice Advisory Council Public Comment Submission

Bennett Rosenberg
Research Analyst
Environmental Working Group

August 22, 2024

The Environmental Working Group (EWG) thanks the National Environmental Justice Advisory Council (NEJAC) for welcoming public input on environmental justice (EJ) and cumulative impact concerns. For the reasons detailed below, EWG urges NEJAC to advise the Environmental Protection Agency to take swift and decisive action to ban the use of paraquat.

No herbicide poses as many health risks for farmers, farmworkers, and people living near farms as paraquat. As renowned labor leader and civil rights activist Dolores Huerta recently testified, paraquat is “one of the greatest continuing threats to the health of farmworkers today.”^[1]

Paraquat is an herbicide primarily used to clear fields before farmers plant corn, soybeans, cotton, almonds, peanuts, wine grapes, and other crops. The chemical can stay in soil for years, but when sprayed, paraquat can also drift through the air or linger in dust.

The use of the herbicide disproportionately impacts vulnerable communities, including EJ communities, leading to cumulative risk of harm.

Paraquat is extremely toxic to humans. Ingestion of even just a small amount can lead to death, and long-term exposure to paraquat has been linked to Parkinson’s disease and other health harms. And yet huge amounts are sprayed every year — farmers and farmworkers sprayed more than 10 million pounds in 2018 alone.^[2]

Paraquat disproportionately threatens EJ communities.

The people most at risk of paraquat exposure include agricultural workers who mix, load, or apply the chemical, as well as people living in agricultural communities who could be exposed to pesticide drift in the air or dust. Agricultural workers are the most vulnerable to pesticide hazards and have the least ability to protect themselves.

In California, paraquat is disproportionately sprayed in or near low-income Latino communities. In an EWG investigation of paraquat use in the state, we observed that 66 percent of all paraquat use was in five majority Latino counties and 65 percent of applications occurred in low-income areas.



Within those counties, the two areas with the greatest paraquat use – one in Kern County and one in Fresno County – overlapped with majority Latino and low income neighborhoods. Disadvantaged communities, like those with high poverty rates or low incomes, are often disproportionately impacted by environmental health pollutants throughout the U.S.^[3]

Rural residents who live near farms also face health threats from the use of paraquat. UCLA researchers found that paraquat sprayed within 500 meters of where people lived and worked could more than double a person's odds of developing Parkinson's over decades.^[4] Furthermore, there are numerous reports of residents near farms using paraquat who experience health harms. For example, a couple in North Carolina spent two years feeling ill for weeks each time a neighboring farm sprayed paraquat, despite never smelling the herbicide's particles.^[5]

Paraquat puts farmworkers at high risk, even with current EPA protections.

Paraquat is dangerous through any route of exposure. If it touches the skin, it can cause severe rashes, scabbing, lesions, and swelling lasting days, weeks, or months.^[6] Inhaling paraquat particles can cause coughing, chest tightness, and lung scarring.^[7]

Ingestion of paraquat has caused suicides and accidental fatal poisonings all over the world.^[8] Paraquat has also been linked to chronic illness, including thyroid disease and cancer,^[9] impaired kidney function, childhood leukemia, non-Hodgkin lymphoma,^[10] and Parkinson's disease.^{[11] [12] [13]}

Paraquat is often used without required precautions.

The EPA assumes all paraquat is applied as directed, but a recent EWG investigation found that the herbicide is often mishandled, creating health and safety risks.^[14] The agency's own data supports this – in 2011, at the beginning of a review of the chemical, the agency noted dozens of occupational incidents of exposure.^[15]

EWG found that growers and spray companies often permit farmworkers to use the harmful chemical in ways that could endanger themselves and those around them.

Many pesticide applicators do not have attentive supervisors who communicate health protocols. Some workers store paraquat bottles unlabeled and unsealed – accidents waiting to happen. Many farmers spray with expired licenses and inadequate protective clothing.^[16]

One farmer testified to a California court that wearing all the required equipment can be a danger in itself on hot days, so he prefers to spray with less protection.^[17] This is another example of a combined impact between paraquat and a non-chemical stressor, temperature, that threatens the health of workers and is currently not accounted for in the EPA's assessment of this chemical.



The EPA should ban paraquat.

Federal regulators have tightened restrictions on paraquat use, but EWG's California investigation shows that hasn't stopped instances of it being mishandled. And each misuse of this deadly poison endangers people spraying paraquat or spending time near it.

In 2016, the EPA proposed new guardrails, including label changes and mandatory training.^[18] Further evaluation of paraquat's potential to cause occupational harm prompted the agency to announce even stricter regulations in 2021, including 10 new mitigation measures.^[19] However, even with these or future additional safety restrictions, paraquat will never be safe to use.

EWG urges the NEJAC to support a full ban of paraquat. Over 60 countries ban paraquat today. NEJAC should urge the EPA to follow their lead.



- [1] *Hearing: Assembly Standing Committee on Environmental Safety and Toxic Materials*. (2024, April 23). Digital Democracy; CalMatters. digitaldemocracy.calmatters.org/hearings/257791
- [2] *2019 Pesticide Use Maps*. (2019). Usgs.gov. water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2019&map=PARAQUAT&hilo=L&disp=Paraquat
- [3] Rabine, A. (2024, March 27). *Paraquat disproportionately threatens California's low-income Latino communities*. Environmental Working Group. ewg.org/research/paraquat-disproportionately-threatens-californias-low-income-latino-communities
- [4] Paul, K., Cockburn, M., Gong, Y., Bronstein, J., & Ritz, B. (2024). Agricultural paraquat dichloride use and Parkinson's disease in California's Central Valley. *International Journal of Epidemiology*, 53(1), dyae004. doi.org/10.1093/ije/dyae004
- [5] NPIC. (n.d.). *National Pesticide Information Center*. npic.orst.edu
- [6] Britton, W., Morton, T., Wray, A. (2019, June 26). Paraquat Dichloride: Draft Human Health Risk Assessment in Support of Registration Review. U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention. nepis.epa.gov/Exec/ZyPDF.cgi/P100YEHL.PDF?Dockey=P100YEHL.PDF
- [7] *Facts about Paraquat*. (2019, May 16). Emergency Preparedness and Response; U.S. Centers for Disease Control and Prevention. emergency.cdc.gov/agent/paraquat/basics/facts.asp
- [8] *Paraquat Dichloride: One Sip Can Kill*. (2024, June 6). U.S. Environmental Protection Agency. epa.gov/pesticide-worker-safety/paraquat-dichloride-one-sip-can-kill
- [9] Harari, A. (2022, August 18). *Researchers examine link between pesticides and thyroid cancer risk in Central California area*. UCLA Health; University of California, Los Angeles. uclahealth.org/news/release/researchers-examine-link-between-pesticides-and-thyroid
- [10] Park, S. K., Kang, D., Beane-Freeman, L., Blair, A., Hoppin, J. A., Sandler, D. P., Lynch, C. F., Knott, C., Gwak, J., & Alavanja, M. (2009). Cancer Incidence Among Paraquat Exposed Applicators in the Agricultural Health Study: A Prospective Cohort Study. *International Journal of Occupational and Environmental Health*, 15(3), 274–281. doi.org/10.1179/oeh.2009.15.3.274
- [11] Paul, K., Cockburn, M., Gong, Y., Bronstein, J., & Ritz, B. (2024). Agricultural paraquat dichloride use and Parkinson's disease in California's Central Valley. *International Journal of Epidemiology*, 53(1), dyae004. doi.org/10.1093/ije/dyae004
- [12] Tangamornsukan, W., Lohitnavy, O., Sruamsiri, R., Chaiyakunapruk, N., Norman Scholfield, C., Reifeld, B., & Lohitnavy, M. (2018). Paraquat exposure and Parkinson's disease: A systematic review and meta-analysis. *Archives of Environmental & Occupational Health*, 74(5), 225–238. doi.org/10.1080/19338244.2018.1492894
- [13] Tanner, C. M., Kamel, F., Ross, G. W., Hoppin, J. A., Goldman, S. M., Korell, M., Marras, C., Bhudhikanok, G. S., Kasten, M., Chade, A. R., Comyns, K., Richards, M. B., Meng, C., Priestley, B., Fernandez, H. H., Cambi, F., Umbach, D. M., Blair, A., Sandler, D. P., & Langston, J. W. (2011). Rotenone, Paraquat, and Parkinson's Disease. *Environmental Health Perspectives*, 119(6), 866–872. doi.org/10.1289/ehp.1002839
- [14] Rosenberg, B., & Horsfield, G. (2024, June 27). *Despite strict use limits, toxic pesticide paraquat often mishandled in California and nationally*. Environmental Working Group. ewg.org/research/ewg-despite-strict-use-limits-toxic-pesticide-paraquat-often-mishandled-california-and
- [15] Oo, Khin Swe (2011, December 12). *Paraquat dichloride: Review of Human Incidents*. U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention. regulations.gov/document/EPA-HQ-OPP-2011-0855-0021
- [16] Rosenberg, B., & Horsfield, G. (2024, June 27). *Despite strict use limits, toxic pesticide paraquat often mishandled in California and nationally*. Environmental Working Group. ewg.org/research/ewg-despite-strict-use-limits-toxic-pesticide-paraquat-often-mishandled-california-and
- [17] Gill, G. (2018). *Recorded testimony from Placer County, CA*. Department of Agriculture Weights and Measures.
- [18] EPA. (2016, March 3). *Paraquat Dichloride; Proposed Interim Mitigation Decision*. regulations.gov/document/EPA-HQ-OPP-2011-0855-0031
- [19] EPA. (2024, February 1). *Paraquat Interim Registration Review Decision*. [egulations.gov/document/EPA-HQ-OPP-2011-0855-0321](https://regulations.gov/document/EPA-HQ-OPP-2011-0855-0321)