

Consolidated Policy Analysis Assignments

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Policy Problem: Monitoring Deficiencies in Approved Pesticide

Post-approval monitoring protocols for pesticides are a responsibility entrusted to the Environmental Protection Agency (EPA). Despite undergoing stringent risk assessments before approval, pesticides need robust monitoring mechanisms to continually evaluate their long-term impacts on public health and the environment. This deficiency is particularly worrisome considering the omnipresent threat of pesticide drift, wherein these chemicals inadvertently disperse from their application sites to neighboring areas, posing significant threats to human health, ecological balance, and societal equity.

While the EPA mandates periodic reevaluation of approved pesticides, which occurs approximately every 15 years, this process needs to be revised. Based on emerging data, evolving health concerns should prompt a reassessing of pesticide risks, not just a major health crisis (Harrison, 2011). Consequently, significant gaps persist in the evaluation process which allows potential risks to remain unaddressed until they escalate to critical levels. This need for ongoing monitoring to improve the timely identification and mitigation of risks associated with pesticide use would mitigate risks for both the human population and natural environment.

Despite regulatory agencies having various options to increase pesticide safeguards, including limiting usage on specific crops, and requiring safety equipment for applicators, the reliance on periodic reevaluation alone does not adequately address emerging risks or evolving health concerns.

Framing the Problem: Enhancing Post-Approval Monitoring for Pesticides

The inadequacies in post-approval monitoring perpetuate disparities in exposure and health outcomes, particularly among marginalized and underserved communities. Incomplete

risk assessments overlook critical factors, such as cumulative and synergistic effects of pesticide exposure, leading to underestimating the risks posed by pesticide drift. Furthermore, the lack of meaningful community engagement sidelines the voices and concerns of affected individuals, exacerbating environmental injustice and health disparities.

Regulatory capture further compounds the issue, as industry influence compromises the integrity and independence of EPA risk assessments, prioritizing commercial interests over public welfare. The absence of effective post-approval pesticide monitoring undermines public health, environmental integrity, and social equity. Addressing this deficiency requires enhancing monitoring mechanisms, fostering meaningful community engagement, and safeguarding regulatory independence to ensure pesticide regulations prioritize the wellbeing of humans and nature (Harrison, 2011).

The EPA's risk assessment methodologies should highlight critical factors, such as cumulative and synergistic effects of pesticide exposure which leads to underestimating the risks posed by pesticide drift. This shortfall undermines the agency's ability to develop targeted regulations and mitigation strategies to protect public health and the environment adequately. Furthermore, the lack of community engagement exacerbates the issue, as affected communities, particularly those marginalized and underserved, have limited opportunities to participate meaningfully in the regulatory process, perpetuating environmental injustice and exacerbating disparities in exposure and health outcomes. (Donley, 2019)

The problem is further compounded by regulatory constraint and industry influence, compromising the integrity and independence of EPA risk assessments. Decision-making processes may be susceptible to undue influence from pesticide manufacturers and agribusiness interests, hindering efforts to establish impartial regulations prioritizing public health and

environmental protection over industry interests (Harrison, 2011). Addressing these deficiencies in pesticide monitoring and risk assessment is essential to safeguarding public health, protecting the environment, and promoting social equity. Efforts should concentrate on enhancing risk assessment methodologies, fostering meaningful community engagement, and safeguarding regulatory independence to ensure effective mitigation of risks and prioritize the well-being of both people and the environment (Donley, 2019).

References

Donley, N. (2019). The USA lags behind other agricultural nations in banning harmful pesticides. *Environmental Health*.

Harrison, J. L. (2011). *Pesticide Drift and the Pursuit of Environmental Justice*. Cambridge, Massachusetts : The MIT Press.

To: Asst Admin Michal Freedhoff, Office of Chemical Safety and Pollution Prevention, EPA

From: Chad E. Sweeton

Date: April 2, 2024

Concerning: Modification of Evaluative Criteria for High-Risk Chemicals

Summary

The EPA must adopt a more proactive and responsive chemical evaluation framework to protect public health and environmental integrity by reducing the reevaluation timeline for high-risk chemicals from 15 years to 5 years. Additionally, enhanced post-approval monitoring, updated risk assessment methodologies, and increased community engagement will ensure pesticide regulations maintain pace with emerging science and public concerns. Prompt action will address current monitoring deficiencies, restore trust in regulatory integrity, and promote environmental justice for marginalized communities.

Policy Goals

Policy alternatives that affect the standards by which high-risk chemicals are reevaluated should be assessed in terms of several goals: impact on preservation of human health, enhanced monitoring mechanisms, improved risk assessment methodologies, and improved community engagement and participation.

Preservation of human health

The ideal policy should prioritize human health. Exposure to high-risk chemicals potentially posing risks to individuals' well-being must be carefully evaluated to identify potentially harmful impacts early on. Risk mitigation should be prioritized as impacts are not confined to one demographic or region.

Enhanced monitoring mechanisms

The ideal policy should establish robust and continuous monitoring mechanisms for pesticides post-approval. Implementing a system which continuously evaluates the real-world impacts of pesticides on public health and the environment, including monitoring pesticide drift and its effects on surrounding communities and ecosystems is critical.

Improved environmental risk assessments

The ideal policy should enhance the risk assessment methodologies regulatory agencies utilize. Addressing shortcomings in current risk assessment practices, such as overlooking cumulative and synergistic effects of pesticide exposure, to ensure a more comprehensive understanding of the risks posed by pesticide use, mitigates irreversible environmental damage.

Enhanced community engagement

The ideal policy should foster meaningful community engagement and participation in the regulatory process. Involves providing opportunities for affected communities, mainly those

marginalized and underserved, to actively participate in decision-making processes related to pesticide use and monitoring. By amplifying their voices and concerns, we can better address environmental injustices and health disparities associated with pesticide exposure.

Policy Alternatives

This analysis considers four alternatives: (1) Current Policy; (2) Increased regulatory oversight to ensure risk mitigation (3) Investment in research and technology and community engagement to better predict impacts (4) dissuade pesticide use by promoting Integrated Pest Management (IPM) and encouraging sustainable agricultural practices.

Current Policy

Under the current policy the EPA subjects all chemicals to a risk assessment process to evaluate their potential environmental and health impacts. These risk assessments rely on the latest scientific knowledge available. However, regardless of risk level (low, medium, or high), chemicals are reevaluated only once every 15 years following initial approval. Therefore, the industry may only become aware of potentially harmful impacts long after they have occurred.

Strengthened Regulatory Oversight

Proposing legislative or regulatory reforms would strengthen supervision of pesticide monitoring and risk assessment procedures. This could entail amending laws such as the Federal Insecticide, Fungicide, and Rodenticide Act to require more rigorous and frequent monitoring after approval while also advocating for transparency and accountability in regulatory decision-making. Shortening the reevaluation timeline from 15 years to two years for high-risk chemicals enables potential adverse impacts to be addressed more aptly, thus preventing escalation while facilitating the application of current scientific knowledge by regulatory agencies.

Investment in Research, Technology, and Capacity Building

Promoting increased investment in research and technology to advance monitoring capabilities and risk assessment methodologies. Funding research initiatives for innovative monitoring technologies and analytical techniques would support capacity building and training programs to enhance regulatory staff and stakeholders' skills and knowledge in pesticide management. These efforts aim to improve monitoring effectiveness and promote collaboration among regulatory agencies, research institutions, and local communities.

Promotion of IPM and Sustainable Agriculture Practices

Embracing IPM and sustainable agriculture over conventional pesticides emphasizes holistic pest management. These methods blend biological, cultural, physical, and chemical controls to minimize pesticide reliance while managing pests effectively. Additionally, sustainable agriculture practices like crop rotation and agroforestry enhance soil health, biodiversity, and ecosystem resilience, promoting natural pest control and environmental sustainability.

Recommendation

The transition team recommends that you reevaluate the standards by which high-risk chemicals are assessed. The time between evaluations, currently 15 years, must be shortened to every five years to ensure active monitoring and current science is applied to the evaluation process. In doing such, harmful impacts would be proactively mitigated. This would preserve human, environmental and ecosystem health by putting an emphasis on the potential harmful impacts of pesticides. **Your first steps** should be to establish a robust and continuous monitoring system for chemicals post approval and enhance the risk assessment methodologies regulatory agencies use. An increase in monitoring effectiveness would promote collaboration among regulatory agencies, research institutions and the community. Additionally, an increase in investment for research technology and capacity building would be necessary to enhance the skills and knowledge needed for pesticide management. There must be an emphasis placed on human health. Increasing the efficiency and effectiveness of spotting potential harmful impacts of pesticides would positively impact all facets of the industry, and those affected both directly and indirectly would benefit.

Appendix A

Summary Comparison of Policy Alternatives for Addressing Pesticide Regulation

	Current Policy	Strengthened Regulatory Oversight	Increased Investment in Monitoring	Promotion of IPM and Sustainable Agriculture
Human Health	Leverages best practices at time of approval to minimize impacts	Increased monitoring and accountability	Proactive approach ensures timely identification of mitigation of adverse effects	Greatly reduces development and use of harmful chemicals
Efficiency	Only during initial approval process. Long wait time for reevaluation	Increased efficiency with more frequent data to inform decision	Highly efficient process. Provides real-time data to better inform	Efficiency is gained by reducing burden on regulators
Equity	Disadvantages to those in rural environments	Increased equity in terms of representation	Enhanced as monitoring is applied indiscriminately	Large agricultural producers assume more risk
Favorable Fiscal Impact	Advantages large chemical manufacturers	Costs shared across multiple agencies	High upfront cost with long term savings	Minimal investment
Political Feasibility	High	Moderate	Moderate	Low

ENHANCING PESTICIDE REGULATION PROMOTES HUMAN HEALTH

US CHEMICAL REGULATIONS LAG BEHIND THE WORLD & PRESENT INCREASED RISK TO PUBLIC HEALTH

Over 85,000 toxic chemicals are approved for use in the U.S

Reduced Evaluation Periods

On average, the approval process for toxic chemicals takes five months, but the harmful effects are not reevaluated for another fifteen years. Reducing reevaluations to every five years will save lives.



Falling behind International Norms

Around 20 percent of pesticides used in the US are banned by the EU, China, and Brazil due to health risks revealed by continuous monitoring and new scientific research. The US must not shy from competition and place American values first.



Resilience through Investment

Alternative agricultural methods that reduce the use of harmful chemicals rely on research and development funding to minimize negative effects. Identifying effective alternatives could all but eliminate the need for pesticides.



Did you know?

Individuals exposed to the pesticide Paraquat are three times more likely to develop Parkinson's disease, leading to its ban in all developed countries except the U.S.

