Post-Election Analysis of Environmental Landscape

Jay Feldman
Executive Director
Beyond Pesticides

Pesticides and the Chesapeake Bay Watershed Project Conference

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“By their very nature, chemical controls are self-defeating, for they have been devised and applied without taking into account the complex biological systems against which they have been blindly hurled. The chemicals may have been pretested against a few individual species, but not against living communities.

We must make wider use of alternative methods that are now known, and we must devote our ingenuity and resources to developing others.”
Overview: Issues Requiring Policy Change re. Pesticide Use

What have we learned?

- Science Matters
- Regulations Can Be Politicized
- Disproportionate Risk and Environmental Racism Is Widespread
- Irreversible Harm Looming with Climate Crisis
- Biodiversity Decline/Insect Apocalypse Threatens Life
- Undue Corporate Influence over Environmental Policy
Setting Tone for Bold Environmental Action (examples)

President-elect Biden policies include:

- Listen to the Scientists
- Systemic Change
- Phase out all fossil fuel use by 2050
- Commitment to the Environmental Justice

Congressional proposals on critical issues:

- Moratorium on large scale industrial concentrated animal feeding operations (CAFO)
- End U.S. sales of gasoline-powered vehicles by 2035
Systemic change means that change has to be fundamental and affects how the whole system functions. Systemic change can mean gradual institutional reforms, but those reforms must be based on and aimed at a transformation of the fundamental qualities and tenets of the system itself.

— Medium.com
Climate Crisis & Pesticides

A 2019 UN Intergovernmental Panel on Climate Change (IPPC) report named agriculture and forestry as a significant net source of greenhouse gas emissions, “contributing to about 22% of anthropogenic emissions of carbon dioxide (CO$_2$), methane (CH$_4$), and nitrous oxide (N$_2$O) combined as CO$_2$ equivalents in 2007 to 2016.”

Insecticides, herbicides, fungicides, and synthetic fertilizers disrupt microbial communities and prevent the kind of carbon-capturing root and symbiotic mycorrhizal fungi systems that are necessary to offset climate change.
Accelerating Biodiversity Loss Threatening All Life

IPBES asserts that this decline in biodiversity threatens society’s ability to meet people’s basic needs, and that current patterns of production and consumption are unsustainable.

—Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, United Nations Decade on Biodiversity (2019)
Antimicrobial/Antibiotic Resistance: New Pandemic

The significant role of antibiotic use — in crop, livestock, and aquaculture production — in the development of antimicrobial resistance has been demonstrated repeatedly. In addition, some pesticides may induce antibiotic resistance in particular pathogens, as dicamba and glyphosate do in certain strains of *E. coli* and *Salmonella enterica*. Further, antibiotics used on livestock, which through their waste get broadcast into the environment and onto crops from biosolids.
Disproportionate Risk & Environmental Racism

There are elevated risk factors from pesticides that attack the neurological, immunological, and respiratory system, increasing vulnerability to Covid-19 and other diseases. Data shows that illness and death from Covid-19 is disproportionately high among people of color. Farmworkers and landscapers, who are disproportionately black and brown people, are also disproportionately exposed to pesticides, elevating risk factors.
These Challenges Require a Systemic Response

Not a partial response that simply:

- Bans specific pesticides in chemical-intensive systems
- Establishes right-to-know when allowing poisoning
- Adopts mitigation measures to solve environmental racism and disproportionate risk
- Ignores preexisting conditions or comorbidities
- Fails to consider efficacy data and alternatives assessments
- Overlooks holistic ecosystem analysis
Historical Trends of Risk-Based Policies that Allow Harm

Unacceptable Hazards Banned:
- Arsenicals, DDT, Chlordane, Dieldrin, Endrin, Heptachlor, 2,4,5-T, Chlorpyrifos residential

To Acceptable Hazards as Alternatives:
- Chlorpyrifos in agriculture, Neonicotinoids (e.g. imidacloroprid), Triazines (e.g. atrazine), 2,4-D, Glyphosate(N-(phosphonomethyl) glycine
Decisions to Reverse in New Administration

- Registration of streptomycin in citrus and other food crops; contributes to antibiotic resistance.
- Coordinated Framework for the Regulation of Biotechnology without systematic assessments of human and environmental effects and indirect economic effects.
- Draft Proposal to Improve Pest Resistance for Plant-Incorporated Protectants does not curb the trajectory in the increasing resistance to (biological) Bt toxins in lepidopteran pests.
Decisions to Reverse in New Administration, continued

- Proposed exemptions under the FIFRA and the Federal Food, Drug and Cosmetic Act (FFDCA) for Plant Incorporated Protectants (PIPs) created through biotechnology [EPA-HQ-OPP-2019-0508]. Unanticipated and dramatic changes to plant.
- Continued registration of Triazines (e.g. atrazine) despite findings of ecological risks, transgenerational effects.
- Registration Review of Paraquat finds insufficient evidence of link to Parkinson’s and did not consider risk to endangered species.
Decisions to Reverse in New Administration, continued

- Proposed interim decision on herbicide clopyralid with human health effects and notorious for nontarget plant damage.
- Determinations of Nonregulated Status for Multi-Herbicide-Tolerant Corn with increased use of 2,4-D and dicamba, linked to severe crop damage.
- Continued Registration Review of Agricultural Uses of Chlorpyrifos despite findings of brain effects in children.
- Continued Registration of Glyphosate failed to consider science on cancer and endangered species.
Legislative Proposals

Holistic Approach

- **Agriculture Resilience Act**, H.R. 5861
  Rep. Pingree
  Accelerate the ability of agriculture and the food system of the United States to first achieve net zero carbon emissions and then go further to be carbon positive by removing additional carbon dioxide from the atmosphere.
Legislative Proposals, continued

Improved Mitigation Measures

- **Saving America’s Pollinators Act**, H.R. 1337, Reps. Blumenthal, McGovern: pollination protection board, depoliticized expedited cancelation of bee-toxic pesticides
A Systemic Approach: Organic Foods Protection Act (OFPA)

- Requires **Organic Systems Plans** for agricultural producers, evaluated through certification system; **default against synthetic inputs**; establishes **National List of Allowed and Prohibited Substances** - compatible synthetic inputs based on life cycle analyses, protecting against adverse health and environmental effects.
An organic system also:
- Improves soil quality
- Minimizes energy use
- Increases biodiversity
- Minimizes water pollution
- Minimizes pesticide residues
- Reduces worker/applicator exposure to pesticide residues
- Improves ecosystem services
- Equal or less cost in long term while landscape quality is maintained
Organic & Precaution
with holistic standards and attention to

- Environmental contamination during manufacture, use, misuse or disposal
- Adverse human health effects
- Biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms, crops, and livestock
A Systemic Solution to Build On

Organic practices eliminate petroleum-based pesticides and synthetic fertilizers that are disruptive of human and ecosystem health, manage soil health to maximize sequestration of atmospheric carbon to combat the climate crisis, and nurture biodiversity.

Refocus pesticide law into a pest management act that provides support for an organic transition with deadlines—similar to the goals set for transition from fossil fuel economy.
Contact Information

Jay Feldman
Executive Director
Beyond Pesticides
701 E Street SE
Washington DC 20003
202-543-5450
jfledman@beyondpesticides.org
www.beyondpesticides.org