## Where Do We Go from Here?

n this special issue, "The Coronavirus Chronicles," we address the science, policy, and advocacy that have emerged during the COVID-19 pandemic and bring together some of what we are learning during this national tragedy. As we know, the virus has taken an unthinkable death and disease toll on families and the nation, forcing a cascade of destruction to our educational system, economy, and social networks. Public attention to the killing of George Floyd at the hands of police, a parallel national tragedy that is not new and also still ongoing, has clearly exposed the serious societal problems associated with racial inequity. National discussion on this has led to greater understanding by the public at-large of disproportionate risk and environmental racism throughout our society.

While Mr. Floyd's killing has laid bare institutional racism and structural problems with the distribution of wealth and the meeting of basic human needs in the U.S., the Covid-19 pandemic brought to national attention essential scientific understandings that must be applied to policy—if we are to meet the challenges of environmental collapse associated with biodiversity decline and the climate crisis. Whether addressing social ills or environmental insults, during this period we are being taught in real time that solving these existential crises demands that we act holistically, or systemically, and address complete ecosystems and social systems, and their interrelationships. Only then will we survive and thrive.

## Science supports strategy

The science articles cited in this issue capture our failure as a society to take seriously scientific findings. The articles are the warning signals of systemic disruption of ecosystems and human health, providing us with a roadmap for a sustainable path forward. For example, knowing that quaternary ammonium and other toxic compounds in common disinfectants bring harm to our respiratory, neurological, and immunological systems, informs the need to seek out alternative strategies, already available on the market, for managing the virus. With the rollout and updating of our Safer Disinfectants and Sanitizers webpage, we point to nontoxic strategies for returning children to school safely—in terms of school infrastructure changes, ventilation, safer products, distancing, and maskwearing. Similarly, we report on a local food hub created in Maui (HI) to provide a local market for farmers who previously served hotels closed by the pandemic, while providing food security for communities.

## Taking a systemic approach

We must widen the lens even further and recognize that the experiences of the past year cry out for broader and deeper

systemic change-requiring that we look at the interaction of all the pieces that allow the system to work. Some important teachings about the COVID-19 pieces include: different population groups have disproportionate vulnerabilities, from children to older people; essential workers (from hospital personnel, to grocery store workers, to farmworkers) suffer elevated risk factors due to exposure patterns, creating disproportionate rates of disease; those with preexisting conditions or comorbidities face higher risks; and a lack of complete scientific knowledge requires a precautionary approach or standard. In this spirit, we must evaluate the introduction of toxic pesticides, which are developed to disrupt biological systems. As a part of ecosystems, from humans to microbial life in the soil or mayfly nymphs (keystone species at the bottom of the aquatic food web), we coexist and depend on each other.

## Organic as systemic change

Given all the complexities associated with a truly holistic or systemic analysis, it also means that we must redouble our efforts to develop and adopt alternatives that eliminate the production and use of these toxic materials. It is unconscionable to continue tweaking restrictions on pesticides with known hazards and broad uncertainties about the effect of mixtures, synergistic effects, and cumulative risk associated with location, occupation, and demographics—given the availability of organic systems that can now and increasingly in the future eliminate those hazards economically and solve the looming environmental threats.

This issue highlights some of the critical elements necessary to advance foundational change in the arena of toxic pesticide dependency and alternatives, the importance of holding corporations and government at all levels accountable to scientific facts, the need to advance individual chemical bans only in the context of a shift to eliminate all toxic pesticides that disrupt life, and the opportunity to do this through the continuous improvement that organic systems offer right now.

As Martin Luther King said in his speech, "Where Do We Go From Here?," to the Annual SCLC Convention in Atlanta, Georgia, August, 16, 1967: "[W]e must walk on in the days ahead with an audacious faith in the future" and, I would add, demand that all policy governing health, welfare, and environmental protection embrace

a holistic and equitable approach to systemic change.

We extend our best wishes for a transformational new year!

Jay Feldman, executive director of Beyond Pesticides





