WHAT'S NEXT

By 2025, as a first step in implementing these priorities, the SPM Work Group and Urban Subgroup call on the state to develop a plan, funding mechanisms, and programs to prioritize pesticides for reduction, and to support the practice change necessary to transition away from the use of high-risk pesticides in agricultural and nonagricultural settings.

No one recommendation—or even one leverage point—will, on its own, bring about systemic change. To meet the 2050 goals, the full breadth of the Roadmap must be implemented. In addition, the Roadmap recommendations can only be effectively implemented if the entire system is working together to create the conditions necessary for these outcomes to be realized. Please join us in making this bold vision a reality!

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ACCELERATING

SUSTAINABLE PEST MANAGEMENT: EXECUTIVE SUMMARY

A ROADMAP FOR CALIFORNIA

DEVELOPED BY:
Members of the Sustainable Pest Management Work Group and Urban Subgroup

IN COLLABORATION WITH:
California Department of Pesticide Regulation
California Department of Food and Agriculture
California Environmental Protection Agency

FACILITATED BY:
Ag Innovations

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THE SPM WORK GROUP AND URBAN SUBGROUP

ORIGIN

While much progress has been made in recent decades by a wide range of entities to transition to safer and more sustainable pest management practices, more work is clearly needed. Despite California's strict regulatory system and robust risk assessment process, there are still chemical tools in use that can cause harm to humans and the environment. The California Department of Pesticide Regulation (DPR), the California Environmental Protection Agency (CalEPA), and California Department of Food and Agriculture (CDFA) launched the Sustainable Pest Management (SPM) Work Group, as part of the State of California's commitment to accelerating the transition away from high-risk pesticides[1] toward adoption of safer, sustainable pest control practices.

SPM WORK GROUP

Thirty-three leaders representing diverse interests were charged with aligning on a pathway to minimize reliance on the use of toxic pesticides and promote solutions that protect health and safety, are agronomically and economically sound, eliminate racial and other disparities, and engage, educate, and promote collaboration toward safe, sustainable pest management practices in production agriculture. Twenty-five of the Work Group members focused on agriculture, and eight focused on urban issues.

URBAN SUBGROUP

While most people associate pesticide use with agricultural settings, there is significant use and impact in urban settings. Based on limited current data, nonagricultural uses account for between 35-55 percent of pesticide sales (pounds sold), 16-19 percent of reported pesticide use (pounds applied primarily by licensed applicators), and 65-75 percent of reported pesticide-related illnesses.[2] DPR invited nine leaders to collaboratively develop guidance on where and how to focus DPR resources, as well as other recommendations for ways that DPR and other entities might support urban sustainable pest management in California.

APPROACH

The SPM Work Group and Urban Subgroup developed this report "Accelerating Sustainable Pest Management: A Roadmap for California," hereafter referred to as simply the "Roadmap," through focus groups, learning journeys, a systems assessment, stakeholder feedback, and months of dialogue. Leaders representing a wide range of interests in the system, including production agriculture, farmworker and rural communities, Tribes, urban communities, socially disadvantaged and historically marginalized communities, the pest control sector, chemical input companies, government, supply chain companies, academia, environmental sciences, public health, and technical assistance, were asked to think holistically and work collaboratively in developing a roadmap that would advance pest management in California.

1 The SPM Work Group and Urban Subgroup define "high-risk pesticides" as active ingredients that are highly hazardous and/or formulations or uses that pose a likelihood of, or are known to cause, significant or widespread human and/or ecological impacts from their use.

2 Ranges provided by DPR for the four most recent years of data available through the pesticide mill reporting (2018-2021), pesticide use reporting (2018-2021), and pesticide illness surveillance program (2016-2019).

SPM: AN OVERVIEW

Sustainable pest management (SPM) is a process of continual improvement that integrates an array of practices and products aimed at creating healthy, resilient ecosystems, farms, communities, cities, landscapes, homes, and gardens. SPM examines the interconnectedness of pest pressures, ecosystem health, and human wellbeing. SPM asks each of us to become an active participant and an informed steward in the effort to enhance a healthy, thriving California.

WHAT IS SPM?

Sustainable Pest Management (SPM) is a holistic, whole-system approach applicable in agricultural and other managed ecosystems and urban and rural communities that builds on the concept of integrated pest management (IPM) to include the wider context of the **three sustainability pillars ▸**

SPM is an evolution of the IPM concept, which the University of California Statewide Integrated Pest Management Program (UC IPM) defines as an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.

Like IPM, SPM guides pest management decisions, and includes a wide range of tools and approaches. SPM goes beyond a checklist of practices or products to address: **1. Impacts on communities, and equity, 2. Linkages to broader environmental issues such as water conservation, biodiversity conservation, soil health, and climate impact, 3. A broader consideration of economic benefits and impacts.**

OUR NORTH STAR

By 2050, pest management approaches in both agricultural and urban contexts in California will promote human health and safety, ecosystem resilience, agricultural sustainability, community wellbeing, and economic vitality. The implementation of these approaches will help steward the state's natural and cultural resources, enabling healthy lives for all and an abundant, healthy food supply for future generations.

We believe that by implementing the Roadmap's recommendations, California will be able to achieve the following goals by 2050.

2050 GOALS FOR CALIFORNIA PEST MANAGEMENT

1 **BY 2050...**

California has eliminated the use of Priority Pesticides by transitioning to sustainable pest management practices.

2 **BY 2050...**

Sustainable pest management has been adopted as the de facto pest management system in California.

A priority outcome of these 2050 goals is the elimination of the adverse human health and environmental impacts associated with pesticide use.

KEYSTONE ACTIONS

The following are the Work Group and Urban Subgroup's keystone actions - those that are urgent and foundational to the success of our collective efforts towards safer, sustainable pest management:

A **Prioritize Prevention**

Strengthen California's commitment to pest prevention by proactively preventing the establishment of new invasive pest species, and by proactively eliminating pest-conducive conditions both in agricultural and urban settings.

B **Coordinate State-Level Leadership**

Create an accountable and connected leadership structure to champion SPM in the field, effectively embed SPM principles across agencies, and improve coordination.

C **Invest in Building SPM Knowledge**

Significantly invest in SPM-focused research and outreach so that all pest management practitioners have equal and adequate access to the support and resources necessary to develop and implement their own SPM system.

▸ **IN AGRICULTURAL PEST MANAGEMENT:**

Secure a significant increase in SPM-trained technical advisors and funding for SPM multi-directional research and outreach.

▸ **IN URBAN PEST MANAGEMENT:**

Expand funding and infrastructure for urban SPM research, innovation, and outreach to align with and reflect the volume and impacts of pesticides used in urban contexts.

D **Improve California's Pesticide Registration Processes and Bring Alternative Products to Market**

Create mechanisms to improve DPR's registration review process and to prioritize and expedite safer, more sustainable alternative products to high-risk pesticides, and improve processes for evaluating currently registered pesticides.

E **Enhance Monitoring and Data Collection**

Significantly expand and fully fund health & environmental monitoring infrastructure, data collection, and interpretation.

PRIORITY PESTICIDES

"Priority Pesticides," which we are intentionally capitalizing, refer to pesticide products, active ingredients, and groups of related products within the context of specific product uses or pest/location use combinations that have been deemed to be of greatest concern and warrant heightened attention, planning, and support to expedite their replacement and eventual elimination. The criteria for classifying pesticides as "Priority Pesticides" includes, but is not limited to hazard and risk classifications,[3] availability of effective alternative products or practices,[4] and special consideration of pest management situations that potentially cause severe or widespread adverse impacts. The identification of these Priority Pesticides will be conducted by DPR under advisement of the multistakeholder Sustainable Pest Management Priorities Advisory Committee. Priority Pesticides are a subset of high-risk pesticides. We define "high risk" pesticides as active ingredients that are highly hazardous and/or formulations or uses that pose a likelihood of, or are known to cause, significant or widespread human and/or ecological impacts from their use.

LEVERAGE POINTS

The keystone actions above are part of a complete and interconnected set of recommendations developed by the SPM Work Group and Urban Subgroup, which fall into the following leverage points in the system–places where sustained and focused effort lead to outsize effect in moving the system toward a greater state of health.

TO ACHIEVE AGRICULTURAL AND URBAN SPM

1. Update California's pest prevention, exclusion and mitigation systems.
2. Improve California's pesticide registration and continuous evaluation.
3. Strengthen coordinated SPM leadership structures.

TO ACHIEVE AGRICULTURAL SPM

4. Enhance knowledge, research, and technical assistance.
5. Align pest control advisors with SPM.
6. Reduce economic risk for growers transitioning to SPM.
7. Activate markets to drive SPM.

TO ACHIEVE URBAN SPM

8. Enhance data and information collection for urban pesticide use.
9. Advance research and outreach on urban pest management issues.
10. Make SPM the preferred choice for both licensed and unlicensed users.
11. Refocus urban design, building codes, and regulations to enhance pest prevention.

3 Including but not limited to California classifications of groundwater contaminants, toxic air contaminants, and restricted products as well as carcinogens, endocrine disruptors, reproductive and developmental toxicants, and environmental toxicants, such as those toxic to non-target pollinators, mammals, birds, and fish.

4 Consideration of alternative products or consideration of the availability of multiple techniques and products to prevent resistance development and when the product under review has no viable alternatives. Viability includes but is not limited to the variables of efficacy, affordability, and availability. Preventive practices include methods of biological and cultural ecosystem management that minimize pest problems and the need for pest control.