California Department of Pesticide Regulation

SANTA MARIA, CA – 2024 AIR MONITORING NETWORK RESULTS

OUR MISSION

The California Department of Pesticide Regulation (DPR) protects human health and the environment by regulating pesticides and by fostering reduced-risk pest management. To improve protections, the DPR routinely monitors pesticides to measure the effectiveness of regulations and restrictions on pesticide use in California. This information collected through DPR's monitoring programs will inform mitigation actions, including additional restrictions that are needed to reduce potential risk of pesticide exposure.

Did you know that DPR monitors the air in Santa Maria since 2011?

OBJECTIVE

The Air Monitoring Network (AMN) measures pesticide concentrations in the ambient air across several agricultural communities in California. Our main goal is to determine if pesticide concentrations are below screening level (SL) and regulatory target (RT) concentrations set by DPR to protect human health and the environment. DPR establishes SL and RT for each pesticide to limit exposures to avoid adverse health effects.

BACKGROUND

In 2011, DPR established a multi-year AMN to measure pesticide concentrations in the air. Santa Maria is considered an area of high pesticide use and is one of four locations where DPR monitors pesticides weekly throughout the year. In the last 13 years, the AMN data has yielded insightful information regarding pesticide concentrations in the ambient air throughout California. This has allowed the department to investigate and modify existing mitigation measures to better protect people and the environment from potential pesticide exposure.

PROTECTING PUBLIC HEALTH

Pesticides have legal requirements that specify how they can be used and who can use them, including methods of application, safety precautions, and use restrictions. These requirements are specified on pesticide product labels by the U.S. Environmental Protection Agency. Additionally, DPR and the County Agricultural Commissioners legally require and enforce additional requirements to protect people working or living near pesticide applications, which include application method restrictions, worker restrictions, buffer zones, timing restrictions, wind speed and direction considerations, and limits on overall quantities applied.

MONITORED PESTICIDES

The department monitors 40 chemicals, including herbicides, fungicides, insecticides and fumigants. These pesticides are selected for monitoring based primarily on potential health risks. Pesticides identified as higher risk have higher priority for monitoring. Fumigants are monitored more closely as they are applied in higher quantities and are evaporate more than other pesticides. DPR regularly evaluates pesticide application methods in order to reduce exposure or potential pesticide drift.

MEASURING PESTICIDE CONCENTRATIONS

Pesticides are monitored for a period of 24 consecutive hours once a week all year-round. DPR reports the concentration of each pesticide at 1 day, 4 weeks (13 weeks for 1,3-dichloropropene & chloropicrin), and 1 year. The department sets health screening level (SL) or regulatory target (RT) concentrations for each pesticide to limit exposures to avoid adverse health effects. SL are used to assess probable health effects while RT are established based on complete assessments of possible health risks. Exceeding RT concentrations suggests that the restrictions on pesticide use may need to be modified to improve protections for people and the environment.

Monitoring station (9x9 ft)

RESULTS

1,3-D, chloropicrin, methyl bromide and MITC were detected in Santa Maria in 2024. RT and SL were not exceeded for any pesticide. The lifetime concentration of 1,3-D is 0.11 ppb, 20% its RT of 0.56 ppb.

Table 1: Highest air concentration in parts per billion (ppb) detected in 2024 and their RT/SL.

Chemical	1 day (acute)			4-13 weeks (subchronic)			1 year (chronic)		
	Conc	RT	% RT	Conc	SL	% SL	Conc	SL	% SL
1,3-dichloropropene	0.40	55	< 1 %	0.12	3	4.1 %	0.04	2	2.0 %
Chloropicrin	0.45	73	< 1 %	0.16	0.35	45 %	0.06	0.27	21 %
Methyl bromide	0.03	210	< 1 %	0.02	5	< 1 %	0.01	1	< 1 %
MITC	0.12	220	< 1 %	0.08	1	7.6 %	0.01	0.1	12 %

DATA & REPORTS

- Air monitoring data: cdpr.ca.gov → Data and Reports → Environmental Monitoring → Air Monitoring → Pesticide Air Monitoring Results Database
- DPR reports: cdpr.ca.gov → Data and Reports → Reports Directory
- Scan the QR code to access the complete AMN report for 2024

Visit our website at www.cdpr.ca.gov, or contact us at air.monitoring@cdpr.ca.gov
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