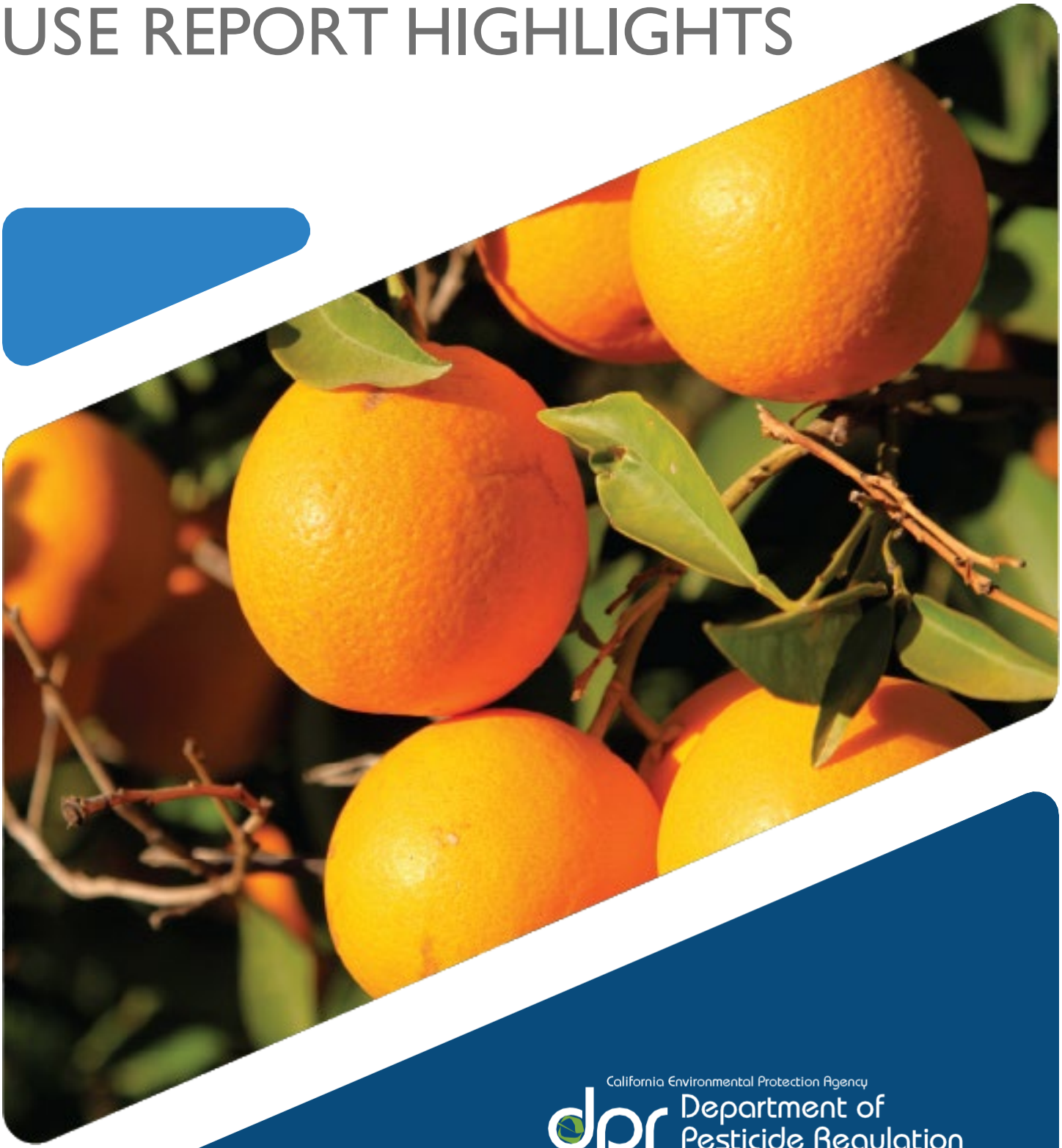
2022 CALIFORNIA PESTICIDE USE REPORT HIGHLIGHTS



California Environmental Protection Agency
Department of Pesticide Regulation

visit us on the web: https://www.cdpr.ca.gov/ email us: PUR.inquiry@cdpr.ca.gov [AG PUR (7/2024)]

BACKGROUND

The mission of the California Department of Pesticide Regulation (DPR) is to protect human health and the environment by fostering sustainable pest management and regulating pesticides. DPR's vision is a California where pest management is safe, effective, and sustainable for everyone.

California began requiring limited pesticide use reporting in 1934. The detailed reporting that occurs today began in the 1990s.The Food Safety Act of 1989 gave DPR the authority to require broader reporting of agricultural pesticide use. Comprehensive use reporting including the pesticide applied, amount applied, area treated, application method, and other details began in 1990.

Over the years, this data has been used by a variety of individuals and groups, including government officials, legislators, scientists, growers, and public interest groups. On average, DPR collects around three million pesticide use records a year.

Currently the Pesticide Use Reporting (PUR) database contains over 100 million pesticide use records, going back to 1990.

PESTICIDE USE OVERVIEW

Reported pesticide use in California in 2022 totaled 181 million pounds of applied active ingredients (AIs) and 92 million cumulative acres treated. Compared to 2021, pounds of applied AIs decreased by 10.4 million (-5.4 percent), and cumulative acres treated decreased by 3 million (-3.2 percent).

Following are the top five AIs as measured by pounds applied and cumulative acres treated. AIs are listed in descending order.

Highest Pounds Applied	Highest Cumulative Acres Treated
Sulfur	Sulfur
Petroleum and Mineral Oils	Petroleum and Mineral Oils
Glyphosate	Glyphosate
1,3-dichloropropene	Lambda-cyhalothrin
Chloropicrin	Abamectin

DEFINITIONS

Cumulative Acres Treated

The cumulative acres treated for a crop may be greater than the planted area of the crop since this measure accounts for a field being treated with the same active ingredient (AI) more than once in a year. For example, if a 20-acre field is treated three times in a calendar year with an AI, the cumulative acres treated would be reported as 60 acres while the area planted would be reported as 20 acres.

Pounds Applied

Total pounds of AI summed over a given time period, geographic area, crop, or other unit of interest.

COMMODITIES OF INTEREST

Every year, DPR identifies use trends of commodities that were treated with over four million pounds of AIs or had more than three million cumulative acres treated. We refer to these as commodities of interest.

Collectively, the pesticides used on the 2022 commodities of interest represent 69 percent of the total amount applied and 72 percent of the cumulative acres treated in 2022.

More detailed use trends for commodities of interest are discussed in the full 2022 PUR Annual Report.

2022 Commodities of Interest:

- Alfalfa
- Almond
- Carrot
- Cotton
- Orange
- Pistachio
- Processing Tomato
- Strawberry
- Table and Raisin Grape
- Tangerine
- Walnut
- Wine Grape

KEY PESTICIDE AND COMMODITY TRENDS

Pesticide use is affected by many factors, including pest populations/outbreaks, adoption and effectiveness of integrated pest management practices, crop value, weather, availability of water, cost of pesticides and labor, pesticide resistance and effectiveness, and more.

Crops treated with the most total pounds of pesticides in 2022 were almond, wine grape, strawberry, table and raisin grape, and processing tomato. Pounds applied increased the most from 2021 to 2022 in strawberry, tangerine, cotton, and blackberry crops, and regulatory pest control (pest control work performed by public employees or contractors in the control of regulated pests). Pounds applied decreased the most in almond, orange, rice, alfalfa, and structural pest control.

Sulfur was the top AI in terms of pounds applied and acres treated in 2022. Sulfur is a low-toxicity, natural fungicide and miticide and is used on many of the 2022 commodities of interest. It is used by both conventional and organic farmers to manage powdery mildew, mites, and other pests.

Between 2016 and 2022, pounds of 1,3-dichloropropene and glyphosate applied decreased by 31% and 17%, respectively.

PESTICIDE CATEGORIES OF INTEREST

Pesticide use is summarized for eight different categories based on a pesticide's potential to cause health or environmental impacts or the type of pesticide. The following table lists these categories and shows their use trends in 2022 versus 2021. Lower-toxicity pesticides (biopesticides and oils) are listed at the top of the table above the thicker dividing line.

Category	Change in Pounds Applied	Percent Change Pounds	Change in Acres Treated	Percent Change Acres
Biopesticides	240,095	3	22,519	0.3
Oils	-2,889,721	-8	-326,016	-7
Carcinogens	-2,763,026	-7	-398,734	-6
Cholinesterase Inhibitors	78,066	3	-33,788	-2
Fumigants	-1,254,294	-3	-218	-0.1
Ground Water Contaminants	-16,361	-8	21,154	9
Reproductive Toxins	-27,367	-0.4	-315,189	-9
Toxic Air Contaminants	-1,004,608	-3	67,915	4

TEN-YEAR USE TRENDS

DPR's Pesticide Use Annual Report includes both short-term and long-term pesticide use trends. Use changes from one year to the next reflect short-term variability in pesticide use. Pesticide use is dependent on many factors that can vary unpredictably year over year, including drought conditions, weather, crop selection and other variables. DPR monitors pesticide use data for longer-term trends to inform actions to mitigate potential impacts to human health and the environment and to inform California's transition to safer, more sustainable pest management. The graphic below highlights the 10-year trend line between 2013 and 2022.

Category	Change in Pounds Applied	Percent Change Pounds	Change in Acres Treated	Percent Change Acres
Biopesticides	2,826,391	56	1,934,054	30
Oils	-1,326,525	-4	46,796	1
Carcinogens	-8,622,348	-20	-2,668,634	-29
Cholinesterase Inhibitors	-2,034,276	-45	-2,113,024	-52
Fumigants	-7,152,905	-17	-138,676	-41
Ground Water Contaminants	-651,688	-77	-447,165	-64
Reproductive Toxins	-5,174,511	-45	-2,272,605	-41
Toxic Air Contaminants	-9,978,562	-21	-1,778,140	-48

The causal factors driving use trends are numerous and are often specific to different regions, pests, or crops/sites, and are not evaluated in this report.

PUR INFORMATION

Web Access

- Pesticide use annual reports issued by DPR can be found at: <https://www.cdpr.ca.gov/docs/pur/purmain.htm>
- The California Pesticide Information Portal can be used to obtain PUR data at: <http://calpip.cdpr.ca.gov/main.cfm>

File Access

- Raw data used in the annual reports, as well as older data (dating back to 1970) can be obtained here: <https://files.cdpr.ca.gov/pub/outgoing/pur_archives/>
- Data from each figure or table in the annual report can be found at: <https://files.cdpr.ca.gov/pub/outgoing/pur/data/>

Email

If you have questions, or would like to request copies of the annual report data, email DPR at: <PUR.Inquiry@cdpr.ca.gov>