Appendix D: Detailed Result Information for Oxnard

Oxnard

Oxnard is located in Ventura County and is 39.21 square miles in area. The average elevation is 52 feet; it receives an average of 15.62 inches of precipitation annually. Average temperatures range from 56° to 76° F in the summer and 42° to 66° F in the winter. Based on the 2010 census, the population of Oxnard was 197,899, of which 29.8% were under 18 years of age and 8.3% were above 65 years of age. The Oxnard Plain is primarily known for strawberry production. The monitoring site is located at Rio Mesa High School and transitioned from a Toxic Air Contaminant (TAC) Network site to an Air Monitoring Network (AMN) site. Monitoring is conducted by the California Air Resources Board (CARB). Sampling as part of the Air Monitoring Network began on August 14, 2018 resulting in less than a full year of analytical results for this site.

Pesticide Detections

Table 1 lists the number and percentage of analyses resulting in detections at the Oxnard sampling site. The highest percentage of detections were for chlorothalonil (65%, n = 13), followed by MITC (55%, n = 11), and then chlorthal-dimethyl (40%, n = 8). The highest percentage of quantifiable detections were observed for MITC (15%, n = 3), followed by chloropicrin (10%, n = 2), and then 1,3-dichloropropene (5%, n = 1).

Table 1. Number and percentage of positive samples per chemical in Oxnard, California.

Chemical	Number of possible detections	Total number of detections*	Number of quantifiable detections	Percent of possible detections	Percent of quantifiable detections
1,3-dichloropropene	20	1	1	5%	5%
Acephate	20	0	0	0%	0%
Bensulide	20	0	0	0%	0%
Chloropicrin	20	4	2	20%	10%
Chlorothalonil	20	13	0	65%	0%
Chlorpyrifos	20	0	0	0%	0%
Chlorpyrifos OA	20	1	0	5%	0%
Chlorthal-dimethyl	20	8	0	40%	0%
Cypermethrin	20	0	0	0%	0%
DDVP	20	0	0	0%	0%
DEF	20	0	0	0%	0%
Diazinon	20	0	0	0%	0%
Diazinon OA	20	0	0	0%	0%
Dimethoate	20	0	0	0%	0%
Dimethoate OA	20	0	0	0%	0%
Diuron	20	0	0	0%	0%
Endosulfan	20	0	0	0%	0%
Endosulfan Sulfate	20	0	0	0%	0%
EPTC	20	0	0	0%	0%
Iprodione	20	0	0	0%	0%
Malathion	20	1	0	5%	0%

Malathion OA	20	3	0	15%	0%
Methidathion	20	0	0	0%	0%
Methyl bromide	20	0	0	0%	0%
Metolachlor	20	0	0	0%	0%
MITC	20	11	3	55%	15%
Norflurazon	20	0	0	0%	0%
Oryzalin	20	0	0	0%	0%
Oxydemeton methyl	20	0	0	0%	0%
Oxyfluorfen	20	0	0	0%	0%
Permethrin	20	0	0	0%	0%
Phosmet	20	0	0	0%	0%
pp-Dicofol	20	0	0	0%	0%
Propargite	20	0	0	0%	0%
Simazine	20	0	0	0%	0%
Trifluralin	20	0	0	0%	0%
Total	720	42	6	6%	1%

* Includes both quantifiable and trace detections.

Pesticide Concentrations

Acute (24-h) Concentrations

Table 2 shows the highest observed 24-h concentrations observed for all chemicals monitored at the Oxnard Air Monitoring Network sampling location in 2018. The highest concentration relative to its screening level was that of chloropicrin at 1.1%. This was followed by 1,3-dichloropropene at 0.1% of its acute screening level.

Table 2. Highest 24-h air concentrations, acute screening levels, and percent of the acute screening level for all chemicals monitored at the Oxnard Air Monitoring Network sampling location in 2018.

Chemical	Highest 24-h concentration in ppb (ng/m³)	24-h acute screening level in ppb (ng/m³)	% of screening level
1,3-dichloropropene	0.1 ppb (450 ng/m³)	110 ppb (505,000 ng/m³)	0.1%
Chloropicrin	0.8 ppb (5400 ng/m³)	73.0 ppb (491,000 ng/m³) *	1.1%
MITC	0.016 ppb (48 ng/m³)	220 ppb (660,000 ng/m³) *	0.01%
Acephate	ND	1.60 ppb (12,000 ng/m³)	
Bensulide	ND	15.9 ppb (259,000 ng/m³)	
Chlorothalonil	Trace	3.13 ppb (34,000 ng/m³)	
Chlorpyrifos	ND	0.08 ppb (1,200 ng/m³)**	
Chlorpyrifos OA	Trace	0.09 ppb (1,200 ng/m³) **	
Chlorthal-dimethyl	Trace	1,730 ppb (23,500,000 ng/m³)	
Cypermethrin	ND	6.64 ppb (113,000 ng/m³)	

DDVP	ND	1.22 ppb (11,000 ng/m³)	
DEF	ND	0.68 ppb (8,800 ng/m³)	
Diazinon	ND	0.01 ppb (130 ng/m³)	
Diazinon OA	ND	0.01 ppb (130 ng/m³)	
Dimethoate	ND	0.46 ppb (4,300 ng/m³)	
Dimethoate OA	ND	0.49 ppb (4,300 ng/m³)	
Diuron	ND	17.8 ppb (170,000 ng/m³)	
Endosulfan	ND	0.20 ppb (3,300 ng/m³)	
Endosulfan Sulfate	ND	0.19 ppb (3,300 ng/m³)	
EPTC	ND	29.7 ppb (230,000 ng/m³)	
Iprodione	ND	69.6 ppb (939,000 ng/m³)	
Malathion	Trace	8.33 ppb (113,000 ng/m³)	
Malathion OA	Trace	8.76 ppb (113,000 ng/m³)	
Methidathion	ND	0.25 ppb (3,100 ng/m³)	
Methyl bromide	ND	210 ppb (820,000 ng/m³) *	
Metolachlor	ND	7.33 ppb (85,000 ng/m³)	
Norflurazon	ND	12.6 ppb (170,000 ng/m³)	
Oryzalin	ND	29.7 ppb (420,000 ng/m³)	
Oxydemeton methyl	ND	3.74 ppb (39,200 ng/m³)	
Oxyfluorfen	ND	34.5 ppb (510,000 ng/m³)	
Permethrin	ND	10.5 ppb (168,000 ng/m³)	
Phosmet	ND	5.94 ppb (77,000 ng/m³)	
pp-Dicofol	ND	4.49 ppb (68,000 ng/m³)	
Propargite	ND	0.98 ppb (14,000 ng/m³)	
Simazine	ND	13.3 ppb (110,000 ng/m³)	
Trifluralin	ND	87.5 ppb	

		(1,200,000 ng/m³)	

* This value is a regulatory target rather than a screening level.
** DPR's May 28, 2019, risk management directive for chlorpyrifos established an acute regulatory target of 0.28 ppb (4,050 ng/m³), 1-hr TWA. However, the current sample duration does not allow for a direct comparison between the acute regulatory target concentration and the measured sample values.

Subchronic (4- or 13-wk) Concentrations

Table 3 shows the highest observed rolling 4-week or 13-week average concentrations for all chemicals monitored at the Oxnard Air Monitoring Network sampling location in 2018. The highest concentration relative to its screening level was that of chloropicrin at 10.0%. This was followed by 1,3-dichloropropene at 1.8%, and then MITC at 1.1%.

Table 3. Highest 4- or 13-wk air concentrations, subchronic screening levels, and percent of the subchronic screening level for all chemicals monitored at the Oxnard Air Monitoring Network sampling location in 2018.

Chemical	Highest 4-week rolling average concentration in ppb (ng/m³)	Subchronic screening level in ppb (ng/m³)	% of screening level
1,3-dichloropropene *	0.054 ppb (240 ng/m³)	3.0 ppb (14,000 ng/m³)	1.8%
Chloropicrin *	0.035 ppb (240 ng/m³)	0.35 ppb (2,300 ng/m³)	10.0%
MITC	0.011 ppb (32 ng/m³)	1.00 ppb (3,000 ng/m³)	1.1%
Acephate	ND	1.13 ppb (8,500 ng/m³)	
Bensulide	ND	1.47 ppb (24,000 ng/m³)	
Chlorothalonil	Trace	3.13 ppb (34,000 ng/m³)	
Chlorpyrifos	ND	0.06 ppb (850 ng/m³)	
Chlorpyrifos OA	Trace	0.06 ppb (850 ng/m³)	
Chlorthal-dimethyl	Trace	34.6 ppb (470,000 ng/m³)	
Cypermethrin	ND	4.76 ppb (81,000 ng/m³)	
DDVP	ND	0.24 ppb (2,200 ng/m³)	
DEF	ND	0.68 ppb (8,800 ng/m³)	
Diazinon	ND	0.01 ppb (130 ng/m³)	
Diazinon OA	ND	0.01 ppb (130 ng/m³)	
Dimethoate	ND	0.32 ppb (3,000 ng/m³)	
Dimethoate OA	ND	0.34 ppb (3,000 ng/m³)	
Diuron	ND	1.78 ppb	

		(17,000 ng/m³)	
Endosulfan	ND	0.20 ppb (3,300 ng/m³)	
Endosulfan Sulfate	ND	0.19 ppb (3,300 ng/m³)	
EPTC	ND	3.10 ppb (24,000 ng/m³)	
Iprodione	ND	21.2 ppb (286,000 ng/m³)	
Malathion	Trace	5.97 ppb (80,600 ng/m³)	
Malathion OA	Trace	6.27 ppb (80,600 ng/m³)	
Methidathion	ND	0.25 ppb (3,100 ng/m³)	
Methyl bromide	ND	5.0 ppb (19,400 ng/m³) *	
Metolachlor	ND	1.29 ppb (15,000 ng/m³)	
Norflurazon	ND	1.92 ppb (26,000 ng/m³)	
Oryzalin	ND	16.2 ppb (230,000 ng/m³)	
Oxydemeton methyl	ND	0.06 ppb (610 ng/m³)	
Oxyfluorfen	ND	12.2 ppb (180,000 ng/m³)	
Permethrin	ND	5.63 ppb (90,000 ng/m³)	
Phosmet	ND	2.00 ppb (26,000 ng/m³)	
pp-Dicofol	ND	3.24 ppb (49,000 ng/m³)	
Propargite	ND	0.98 ppb (14,000 ng/m³)	
Simazine	ND	3.76 ppb (31,000 ng/m³)	
Trifluralin	ND	12.4 ppb (170,000 ng/m³)	

* These concentrations represent the highest 13-week rolling average, rather than the default 4-week rolling average.

Chronic (2018) Concentrations

Annual 2018 average concentrations were not able to be determined for Oxnard since monitoring at this site is conducted by CARB and commenced on August 14, 2018 resulting in less than a full year of analytical results for this site.

Temporal trends in detected concentrations

Figures 1 – 3 present the concentrations over time for monitoring results in 2018 for any chemical detected at a quantifiable concentration in Oxnard. The results for 1,3-dichloropropene in Oxnard have

been supplemented with available data from the TAC network. Slight differences exist in data collection methods between the studies, so this is of limited value for quantitative comparisons. Screening levels, as defined in Appendix K are abbreviated as SL in the following graphs. Regulatory targets, also defined in Appendix K, are abbreviated as RT. For graphs where both a pesticide and its degradate are shown, the detected concentrations of both the parent chemical and its degradate have been summed for each sampling date.

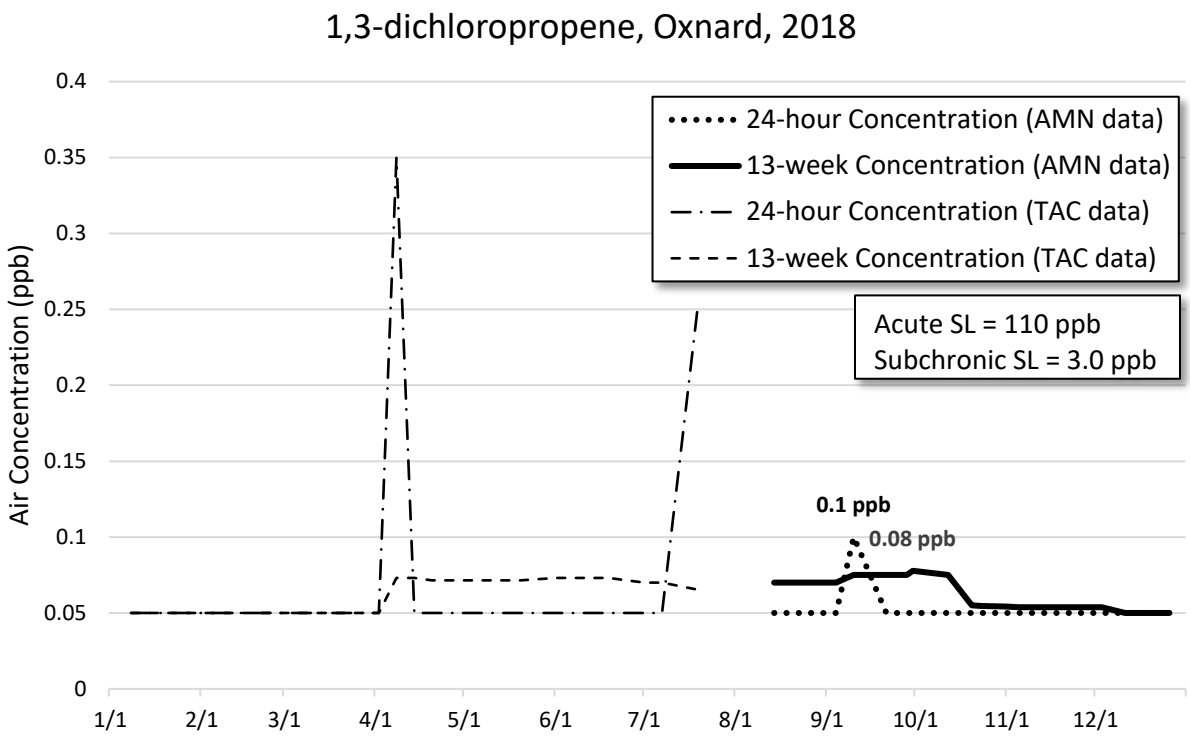

Figure 1. Temporal trend in 1,3-dichloropropene concentrations in Oxnard in 2018.

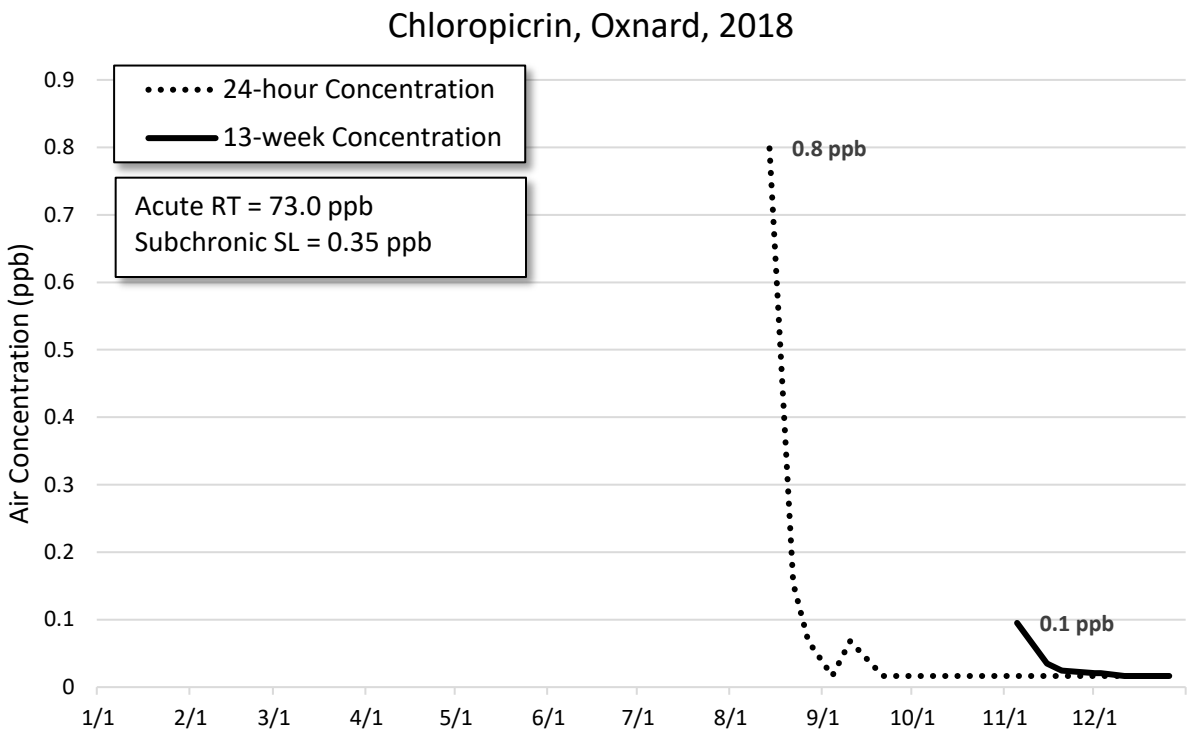

Figure 2. Temporal trend in chloropicrin concentrations in Oxnard in 2018.

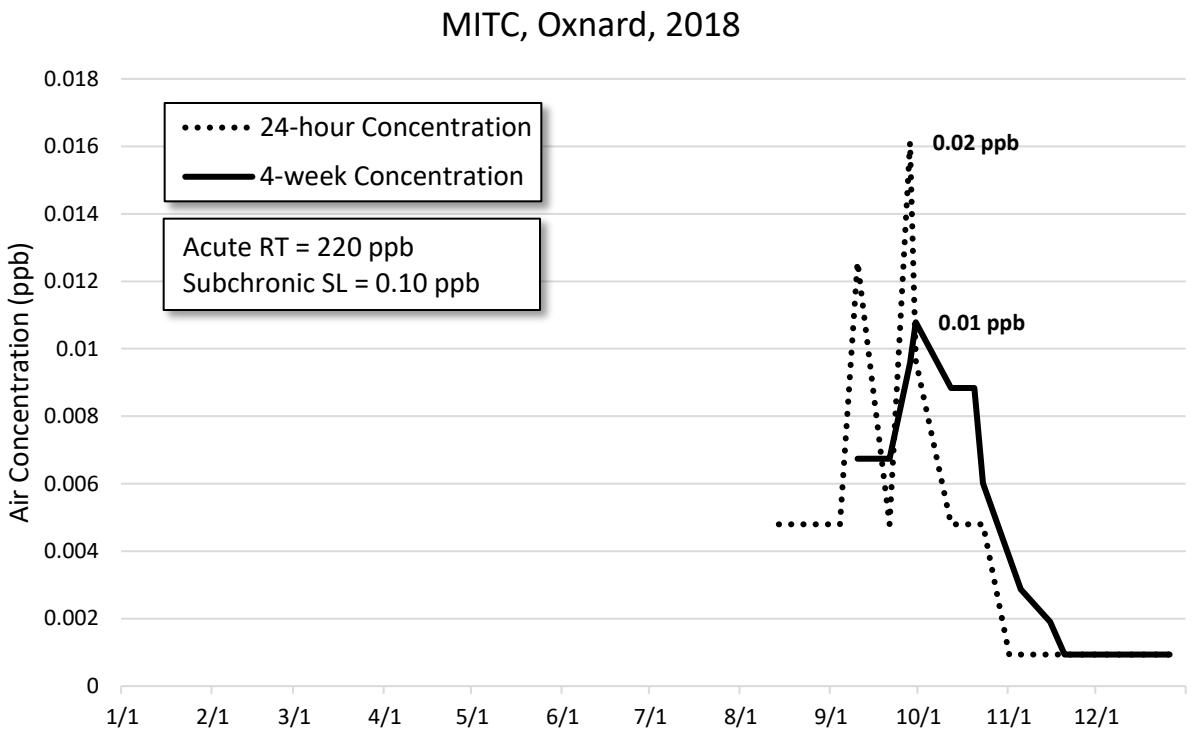

Figure 3. Temporal trend in MITC concentrations in Oxnard in 2018.