

DEPARTMENT OF FOOD AND AGRICULTURE



California Notice 88-20

NOTICE OF ALDICARB SULFOXIDE AND ALDICARB SULFONE
FINDS IN CALIFORNIA GROUND WATER AND REGISTRANTS'
OPPORTUNITY TO REQUEST HEARING

Recently, aldicarb sulfoxide and aldicarb sulfone, degradates of the economic poison aldicarb registered as an insecticide, were identified in the ground water of Humboldt County. It has been determined that the presence of these degradates in the ground water resulted from legal agricultural use of aldicarb.

Pursuant to Section 13149(b) and (c) of the Food and Agricultural Code (FAC), notice is hereby given of the aldicarb sulfoxide and aldicarb sulfone finds and that registrants of aldicarb insecticides have thirty days after this notice is issued to request a hearing. A hearing will be held within 180 days after we receive a written request. During the hearing, registrants will be required to submit a report and documented evidence supporting the continued registration, sale, and use of aldicarb. Notice of a scheduled hearing will be mailed to aldicarb registrants together with information regarding the report and documented evidence required for the hearing. If a hearing is not requested within thirty days after this notice is issued, the Director of the Department of Food and Agriculture is required to cancel the registration of the economic poison pursuant to Section 13149(c), FAC.

Aldicarb sulfoxide and aldicarb sulfone were found in ground water in Humboldt County during a well monitoring study by the Department's Environmental Monitoring and Pest Management Branch. The Environmental Hazards Assessment Program has received the following results from chemical analysis of samples from six wells sampled in Humboldt County.

	<u>Aldicarb</u>	<u>Aldicarb Sulfone</u>	<u>Aldicarb Sulfoxide</u>
Number of Positive Wells:	0	4	2
Number of Negative Wells:	6	2	4
Range of ppb:	0	0.2-4.6	0.82-13.2
MDL (ppb):	0.2	0.2	0.6

Requests for additional information should be directed to Carol Cummins at (916) 322-3564.

11 October 1988

Tobi Jones
Tobi Jones, Chief
Pesticide Registration Branch

Enclosures

Determination That Residues of Aldicarb Sulfoxide and Aldicarb
Sulfone in Sections 07N/01E/07 and 07N/01E/17 of Humboldt County
Resulted from Legal Agricultural Use of Aldicarb

Pursuant to the Food and Agricultural Code, Section 13149 (a)(2), the Environmental Hazards Assessment Program has completed an investigation to determine if trace amounts of the degradation products of aldicarb, aldicarb sulfoxide and aldicarb sulfone, in Humboldt County in Sections 07N/01E/07 and 07N/01E/17 resulted from agricultural use.

The investigation resulted in the following:

1. Three wells located in Section 07N/01E/17 were sampled and aldicarb sulfoxide and aldicarb sulfone were detected in all three wells. Three wells in Section 07N/01E/07 were sampled and aldicarb sulfone was found in one of the three wells.
2. The land use survey of Section 07N/01E/17 showed that 20% of the area was planted with bulbs and another 20% of the area was planted in pasture which is usually rotated with bulb crops. The land use survey for Section 07N/01E/07 showed that 20% of the area was planted with bulbs and another 40% of the area was planted with pasture which is normally rotated with bulb crops. Although permits are not now issued for aldicarb use in this area, there is a history of aldicarb use on bulbs in the area of detection and such use is still allowed on the label of products containing aldicarb. Bulb crops represent the only known use of aldicarb in Humboldt County.
3. The Pesticide Enforcement Branch surveyed Section 07N/01E/07 and 07N/01E/17 and did not identify any point sources that could have resulted in residues of aldicarb sulfoxide or sulfone.

From the evidence, it appears that the presence of aldicarb sulfoxide or sulfone in well water in Sections 07N/01E/07 and 07N/01E/17 resulted from the legal agricultural use of aldicarb on bulb crops.

Final Results of Four Section Survey
for Aldicarb in Humboldt County

The analytical results for all three surveys conducted by the EHAP are presented in the table that follows. The analytical laboratories represented are the CDFA (CDFA), California Analytical (CAL) and North Coast Laboratories (NCL). Please note that NCL converted all aldicarb present to the sulfone and reported total sulfone residues, while the CDFA and CAL analyzed and reported the parent compound and oxidation products separately.

Loc. code	T/R/S	Sample date	Analyt. lab.	(ppb) Aldicarb	(ppb) Sulfoxide	(ppb) Sulfone	
001	07N/01E/17	2/23/88	CDFA	<2.0	<2.0	<2.5	backup
		3/23/88	CDFA	<1.0	<2.0	<1.0	primary
		5/19/88	CAL	<0.2	1.0	0.7	primary
		5/19/88	CAL	<0.2	0.82	0.92	backup
		5/19/88	NCL	0.7 total sulfone			
002	07N/01E/17	2/23/88	CDFA	<2.0	6.4	<2.5	backup
		3/23/88	CDFA	<1.0	11.8	2.7	primary
		3/23/88	CDFA	<1.0	13.2	3.1	backup
		5/19/88	CAL	<0.2	4.1	3.2	primary
		5/19/88	CAL	<0.2	6.7	4.6	backup
5/19/88	NCL	4.9 total sulfone				backup	
003	07N/01E/07	2/23/88	CDFA	<2.0	<2.0	<2.5	backup
		3/23/88	CDFA	<1.0	<2.0	<1.0	primary
		5/19/88	CAL	<0.2	<0.6	1.1	primary
		5/19/88	CAL	<0.2	<1.0	1.3	backup
		5/19/88	NCL	1.1 total sulfone			
004	07N/01E/07	3/23/88	CDFA	<1.0	<2.0	<1.0	primary
		5/19/88	CAL	<0.2	<2.0	<0.2	primary
		5/19/88	CAL	<0.2	<2.0	<0.2	backup
		5/19/88	NCL	<0.2 total sulfone			
005	07N/01E/07	3/23/88	CDFA	<1.0	<2.0	<1.0	primary
		5/19/88	CAL	<0.2	<2.0	<2.0	primary
		5/19/88	CAL	<0.2	<2.0	<0.2	backup
		5/19/88	NCL	<0.2 total sulfone			
006	07N/01E/17	3/23/88	CDFA	<1.0	<2.0	<1.0	primary
		5/19/88	CAL	<0.2	0.2	0.2	primary
		5/19/88	CAL	<0.2	<1.0	0.23	backup
		5/19/88	NCL	0.2 total sulfone			

In summary, for the survey conducted on May 19, 1988, three wells (location code 001, 002, 006) in 07N/01E/17 and one well (location code 003) in 07N/01E/07 contained residues of aldicarb sulfoxide or sulfone. None of the samples contained detectable levels of the aldicarb parent compound. Additionally, for each positive primary sample, a backup sample was found to be positive by the same laboratory and a second backup sample was found to be positive by a second laboratory. One field blank sample for each well was also analyzed by each of the two laboratories and found to contain no aldicarb residues.

A PMZ land use survey conducted in 07N/01E/17 on March 23, 1988 revealed that 20% of the area was covered by bulbs, 20% by native pasture (possibly rotated with bulb crops in the past), 20% by a forest nursery, 20% by native vegetation and approximately 12% by urban residential. A small planting of bushberries was also located in the section.