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Washington, DC 20250

RE: Zoxamide Use and Usage Pattern  
DATE: August 25, 2014

The following comment is provided by the Western Integrated Pest Management Center in response to EPA docket number EPA-HQ-OPP-2014-0391. The response includes information regarding zoxamide use in California, Oregon, Washington, and Idaho.

Zoxamide is commonly used to control both early and late blights of potatoes in the Pacific Northwest. Zoxamide is not sold alone but is pre-mixed with mancozeb in the product Gavel. The pre-mix helps to prevent fungicide resistance and both components of the mix are effective. In some other pre-mixes only one of the fungicides is effective against late blight of potato. The price of Gavel is competitive with other products that contain one fungicide active ingredient.

Zoxamide is not used for downy mildew of grapes in Washington, Oregon, or California because downy mildew of grapes is not a problem in these states. The mancozeb component of Gavel is effective against other grape diseases but mancozeb is available by itself so there is no reason to use the pre-mix.

Zoxamide is occasionally used for early blight and late blight of potato in winter potato production in Kern County, California. It is also occasionally used for early and late blights of tomato and downy mildew on cucumbers in California. California pesticide use report data for 2012 is in the attached table. Zoxamide is not recommended by University of California Integrated Pest Management program.

I hope this helps. Please contact me if you need further information.

Sincerely,



Jim Farrar, Director  
Western IPM Center

YEAR	DATE	COUNTY NAME	SITE NAME	PRODUCT NAME	POUNDS PRODUCT APPLIED	CHEMICAL NAME	POUNDS CHEMICAL APPLIED	AMOUNT TREATED	UNIT TREATED	AERIAL GROUND INDICATOR
2012	13-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	75	ZOXAMIDE	6.23	37.5	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	8	ZOXAMIDE	0.66	4	A	G
2012	18-Aug-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	100	ZOXAMIDE	8.30	50	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	46	ZOXAMIDE	3.82	23	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	5	ZOXAMIDE	0.42	2.5	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	60	ZOXAMIDE	4.98	30	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	10	ZOXAMIDE	0.83	5	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	34	ZOXAMIDE	2.82	17	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	28	ZOXAMIDE	2.32	14	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	66	ZOXAMIDE	5.48	33	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	50	ZOXAMIDE	4.15	25	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	20	ZOXAMIDE	1.66	10	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	112	ZOXAMIDE	9.30	56	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	258	ZOXAMIDE	21.41	129	A	G

2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	20	ZOXAMIDE	1.66	10	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	106	ZOXAMIDE	8.80	53	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	138	ZOXAMIDE	11.45	69	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	104	ZOXAMIDE	8.63	52	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	110	ZOXAMIDE	9.13	55	A	G
2012	31-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	168	ZOXAMIDE	13.94	84	A	G
2012	12-Jul-12	COLUSA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	120	ZOXAMIDE	9.96	60	A	G
2012	31-Jul-12	GLENN	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	62	ZOXAMIDE	5.15	31	A	G
2012	31-Jul-12	GLENN	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	200	ZOXAMIDE	16.60	100	A	G
2012	11-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	35.6	ZOXAMIDE	2.95	17.8	A	O
2012	18-Oct-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	90	ZOXAMIDE	7.47	45	A	A
2012	10-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	150	ZOXAMIDE	12.45	75	A	O
2012	12-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	140	ZOXAMIDE	11.62	70	A	O
2012	6-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	76	ZOXAMIDE	6.31	38	A	O
2012	26-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	110	ZOXAMIDE	9.13	55	A	G

2012	12-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	240	ZOXAMIDE	19.92	120	A	A
2012	2-Jun-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	140	ZOXAMIDE	11.62	70	A	O
2012	28-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	280	ZOXAMIDE	23.24	140	A	G
2012	16-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	150	ZOXAMIDE	12.45	75	A	G
2012	16-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	140	ZOXAMIDE	11.62	70	A	O
2012	11-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	148	ZOXAMIDE	12.28	74	A	O
2012	12-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	92	ZOXAMIDE	7.64	46	A	O
2012	27-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	A
2012	10-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	150	ZOXAMIDE	12.45	75	A	O
2012	28-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	100	ZOXAMIDE	8.30	50	A	G
2012	4-Jun-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	148	ZOXAMIDE	12.28	74	A	O
2012	4-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	92	ZOXAMIDE	7.64	46	A	G
2012	27-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	A
2012	12-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	110	ZOXAMIDE	9.13	55	A	O
2012	10-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	142	ZOXAMIDE	11.79	71	A	O
2012	12-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	80	ZOXAMIDE	6.64	40	A	A
2012	12-May-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	90	ZOXAMIDE	7.47	45	A	O

2012	28-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	110	ZOXAMIDE	9.13	55	A	O
2012	28-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	154	ZOXAMIDE	12.78	77	A	O
2012	14-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	148	ZOXAMIDE	12.28	74	A	A
2012	12-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	158	ZOXAMIDE	13.11	79	A	A
2012	12-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	152	ZOXAMIDE	12.62	76	A	A
2012	12-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	74	ZOXAMIDE	6.14	37	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	156	ZOXAMIDE	12.95	78	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	156	ZOXAMIDE	12.95	78	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	150	ZOXAMIDE	12.45	75	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	152	ZOXAMIDE	12.62	76	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	156	ZOXAMIDE	12.95	78	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	148	ZOXAMIDE	12.28	74	A	A
2012	25-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	148	ZOXAMIDE	12.28	74	A	A
2012	27-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	56	ZOXAMIDE	4.65	28	A	A
2012	27-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	A
2012	27-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	A
2012	27-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	40	ZOXAMIDE	3.32	20	A	A

2012	14-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	150	ZOXAMIDE	12.45	75	A	A
2012	27-Apr-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	80	ZOXAMIDE	6.64	40	A	A
2012	4-Jun-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	162	ZOXAMIDE	13.45	81	A	O
2012	28-Sep-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	100	ZOXAMIDE	8.30	50	A	A
2012	28-Sep-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	174	ZOXAMIDE	14.44	87	A	A
2012	27-Mar-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	56	ZOXAMIDE	4.65	28	A	A
2012	18-Oct-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	80	ZOXAMIDE	6.64	40	A	A
2012	18-Oct-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	100	ZOXAMIDE	8.30	50	A	A
2012	18-Oct-12	KERN	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	96	ZOXAMIDE	7.97	48	A	A
2012	29-Jun-12	KERN	TOMATO	GAVEL 75 DF FUNGICIDE	12	ZOXAMIDE	1.00	8	A	A
2012	25-May-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	134.82	ZOXAMIDE	11.19	67.41	A	A
2012	25-May-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	30	ZOXAMIDE	2.49	15	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	155	ZOXAMIDE	12.87	77.5	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	144.6	ZOXAMIDE	12.00	72.3	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	140.8	ZOXAMIDE	11.69	70.4	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	188	ZOXAMIDE	15.60	94	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	145	ZOXAMIDE	12.04	72.5	A	A

2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	138.8	ZOXAMIDE	11.52	69.4	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	146.6	ZOXAMIDE	12.17	73.3	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	194	ZOXAMIDE	16.10	97	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	192	ZOXAMIDE	15.94	96	A	A
2012	25-May-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	95.24	ZOXAMIDE	7.90	47.62	A	A
2012	15-Apr-12	KERN	TOMATOES, FOR PROCESSING/CANNING	GAVEL 75 DF FUNGICIDE	145	ZOXAMIDE	12.04	72.5	A	A
2012	13-Aug-12	SUTTER	MELONS	GAVEL 75 DF FUNGICIDE	30	ZOXAMIDE	2.49	15	A	A
2012	2-May-12	TULARE	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	148.2	ZOXAMIDE	12.30	74.1	A	A
2012	9-May-12	TULARE	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	156.8	ZOXAMIDE	13.01	78.4	A	A
2012	2-May-12	TULARE	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	144.8	ZOXAMIDE	12.02	72.4	A	A
2012	9-May-12	TULARE	POTATO (WHITE, IRISH, RED, RUSSET)	GAVEL 75 DF FUNGICIDE	144	ZOXAMIDE	11.95	72	A	A
2012	12-Jul-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	126	ZOXAMIDE	10.46	63	A	A
2012	12-Jul-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	78	ZOXAMIDE	6.47	39	A	A
2012	23-Aug-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	66	ZOXAMIDE	5.48	33.06	A	G
2012	31-Aug-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	80	ZOXAMIDE	6.64	40	A	A
2012	14-Sep-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	208	ZOXAMIDE	17.26	104	A	A
2012	31-Jul-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	130	ZOXAMIDE	10.79	65	A	G

2012	10-Sep-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	140	ZOXAMIDE	11.62	70	A	G
2012	3-Sep-12	YOLO	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	28	ZOXAMIDE	2.32	14	A	G
2012	15-Aug-12	YUBA	CUCUMBER (PICKLING, CHINESE, ETC.)	GAVEL 75 DF FUNGICIDE	16	ZOXAMIDE	1.33	8	A	G