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OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MEMORANDUM

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**SUBJECT:** Monitoring Data for Isoxaflutole: Quarterly Report for  
Samples Analyzed April 1 to June 30, 2002 (Dated 9/9/02)

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**DATE:** November 1, 2002

This memorandum interprets data submitted through the registrant-funded sampling and analysis program under the conditional registration for isoxaflutole. The current data package includes sampling from Iowa (112 pond/lake and 69 creek/river), Kansas (1 pond/lake and 4 creek/river), Minnesota (1 pond/lake), Missouri (32 reservoirs), and Nebraska (76 creek/river and 93 wells).

The data for the Missouri reservoirs has already been examined in a previous memo (Sept. 5, 2002) that covers results through March, 2002.

Of the 93 Nebraska wells, only one had a detectable amount of the metabolite RPA-202248, at 6 parts-per-trillion. The data for creeks and rivers appear to be in line with previous years' results (2000 and 2001). We expect the state of Nebraska to issue a monitoring summary for 2002, as they have in the past. That report will be forwarded to you when we receive it.

Iowa Ponds and Lakes

In response to EFED's concerns about contamination of reservoirs in Missouri, the registrant (now Bayer CropScience) has started a monitoring program. This program was outlined in a meeting with EFED and RD on October 8, 2002.

In the Sept. 9, 2002 quarterly report, Bayer reports results for 112 Iowa ponds and lakes in 65 counties (Iowa has 99 counties). All lakes were sampled once in May or June, 2002. So, roughly two-thirds of Iowa counties were sampled. Counties from all parts of the state were included, except that counties in the east-central part of the state were poorly represented.

Of the 112 lakes, 63 had detectable residues of the isoxaflutole metabolites RPA-202248 or RPA-203328. This is 56% of the lakes tested. The concentration of the active metabolite RPA-202248 (or diketoneitrile, DKN) was below 10 parts-per-trillion (ppt) in 14 lakes (13%), between 11 and 100 ppt in 42 lakes (38%) and above 100 ppt in 4 lakes (3.6%). The highest concentration of DKN, 396 ppt, was reported in East Lake (Osceola) in Clarke county.

Forty-nine of the 65 counties sampled had at least one contaminated lake. This is 75% of all tested counties (65) and 50% of all counties in Iowa (99).

Only 8 of the 65 lakes were identified as potable water. Six of the eight were contaminated. The contaminated lakes include West Lake (Osceola) in Clarke county (120 ppt DKN), Red Haw Lake in Lucas county (183 ppt DKN), Lake Icaria in Adams county (12 ppt DKN), Little River Lake in Decatur county (39 ppt DKN), and Twelve Mile Creek Lake (37 ppt) and Three Mile Lake (24 ppt) in Union county.

These results are a "snapshot" of the 112 lakes in May and June, 2002. Compared to the 32 Missouri reservoirs, the rate of contamination in Iowa is higher (over half versus about one-third). The maximum concentration observed is also higher (396 ppt versus 259 ppt in LaBelle Lake #1 in Missouri). The number of lakes above 100 ppt DKN (4) is greater in Iowa than in Missouri (2) although the percentage is lower (3.6% versus 6.3%).

Overall, these results show that lakes and ponds in Iowa are contaminated at a higher rate than in Missouri, and at higher maximum concentrations, although the rate of lakes above 100 ppt is slightly lower. No statements about trends over time can be made, because only one sampling has been done so far.

Isoxaflutole and metabolites in Iowa ponds, lakes  
 MRID D286410

State	County	Lake	Potable?	Date	Parent, ppt	202248 (DKN), ppt	203328, ppt
Iowa	Adair	Greenfield	Y	5/28/02	<10	<10	<10
	Adair	Meadow	N	5/28/02	<10	6	<10
	Adair	L. Orient	N	5/28/02	<10	<10	<10
	Adair	Mormon Trail	N	5/29/02	<10	7	<10
	Adams	L. Icaria	Y	5/29/02	<10	12	3
	Appanoose	Rathbun	N	6/5/02	<10	10	5
	Audubon	Littlefield	N	5/29/02	<10	4	4
	Black Hawk	Meyers	N	6/11/02	<10	<10	<10
	Black Hawk	George Wyth	N	6/11/02	<10	<10	<10
	Black Hawk	Mitchell	N	6/11/02	<10	<10	<10
	Boone	Don Williams	N	5/30/02	<10	81	16
	Bremer	Avenue of the Saints	N	6/11/02	<10	327	124
	Buena Vista	Storm/Little Storm	N	5/23/02	<10	4	<10
	Calhoun	North Twin	N	5/24/02	<10	<10	<10
	Carroll	Swan	N	5/30/02	<10	16	8
	Cass	Cold Springs	N	5/29/02	<10	<10	<10
	Cass	L. Anita	N	5/29/02	<10	9	3
	Cerro Gordo	Clear	N	6/10/02	<10	5	<10
	Clarke	West L (Osceola)	Y	6/6/02	<10	120	57
	Clarke	East L (osceola)	N	6/6/02	<10	396	205
	Clay	Trumbull	N	5/22/02	<10	<10	<10
	Crawford	Nelson Park	N	5/30/02	<10	<10	<10
	Crawford	Yellow Smoke Park	N	5/30/02	<10	99	37
	Dallas	Beaver	N	5/28/02	<10	22	8
	Davis	L. Wapello	N	6/5/02	<10	<10	<10
	Decatur	Slip Bluff	N	6/5/02	<10	<10	<10
	Decatur	Little River L	Y	6/6/02	<10	39	25
	Decatur	Nine Eagles	N	6/5/02	<10	<10	<10
	Dickinson	Silver	N	5/21/02	<10	<10	<10
	Dickinson	Lower Gar	N	5/22/02	<10	<10	<10
	Dickinson	East Okoboji	N	5/23/02	<10	<10	<10
	Dickinson	West Okoboji	N	5/23/02	<10	3	<10

Dickinson	L Minnewashta	N	5/22/02	<10	<10	
Dickinson	Upper Gar	N	5/22/02	<10	<10	
Dickinson	Big Spirit	Y	5/22/02	<10	<10	
Dickinson	Center	N	5/22/02	<10	<10	
Emmet	Ingham	N	5/22/02	<10	14	<10
Emmet	Tuttle	N	5/22/02	<10	4	<10
Franklin	Beeds	N	6/10/02	<10	6	<10
Greene	Spring	N	5/30/02	<10	<10	
Guthrie	Springbrook	N	5/30/02	<10	<10	
Hamilton	Briggs Woods	N	6/10/02	<10	18	4
Hancock	Crystal	N	6/11/02	<10	6	<10
Hancock	Eldred Sherwood	N	6/10/02	<10	14	<10
Hardin	Lower Pine	N	6/10/02	<10	12	3
Hardin	Upper Pine	N	6/10/02	<10	14	3
Harrison	DeSoto Bend	N	5/29/02	<10	<10	
Harrison	Willow	N	5/30/02	<10	<10	
Henry	L Geode	N	6/4/02	<10	48	29
Howard	L Hendricks	N	6/12/02	<10	28	19
Ida	Moorehead	N	5/20/02	<10	<10	
Ida	Crawford Creek Impoundment	N	5/20/02	<10	11	9
Iowa	L Iowa	N	6/4/02	<10	39	17
Jasper	Mariposa L (Ken Wolfe L)	N	6/3/02	<10	29	27
Jasper	Rock Creek	N	6/3/02	<10	14	6
Kossuth	L Smith	N	5/23/02	<10	<10	
Lee	Pollmiller Park	N	6/4/02	<10	<10	3
Lucas	Williamson Pond	N	6/5/02	<10	<10	3
Lucas	Red Haw	Y	6/5/02	<10	183	80
Lyon	L Pahoja	N	5/21/02	<10	4	4
Madison	Badger Creek	N	6/6/02	<10	20	11
Madison	Dale Maffitt	N	6/6/02	<10	<10	
Mahaska	Hawthorn	N	6/4/02	<10	27	13
Mahaska	L Keomah	N	6/4/02	<10	12	8
Mahaska	White Oak	N	6/4/02	<10	<10	
Marion	Roberts Creek	N	6/4/02	<10	78	23
Marion	Red Rock	N	6/4/02	<10	35	7
Marshall	Green Castle	N	6/3/02	<10	<10	
Monona	Blue	N	5/30/02	<10	<10	

Monona	Oldham	N	5/30/02	<10	<10	21
Monroe	L Miami	N	6/5/02	<10	79	
Montgomery	Viking	N	5/29/02	<10	<10	
O'Brien	Dog Creek L	N	5/21/02	<10	35	
O'Brien	Mill creek L	N	5/21/02	<10	10	
Page	Pierce Creek L	N	5/29/02	<10	22	
Palo Alto	Lost Island	N	5/22/02	<10	4	
Palo Alto	Silver	N	5/23/02	<10	12	
Palo Alto	Five Island	N	5/23/02	<10	<10	
Polk	Easter	N	6/3/02	<10	<10	
Polk	Big Creek L	N	6/3/02	<10	10	
Polk	Saylorville	N	6/3/02	<10	14	
Pottawattamie	Carter	N	5/29/02	<10	<10	
Pottawattamie	L Manawa	N	5/29/02	<10	<10	
Pottawattamie	Arrowhead	N	5/29/02	<10	<10	
Poweshiek	Diamond	N	6/4/02	<10	51	
Poweshiek	Arbor	N	6/3/02	<10	9	
Ringgold	Fogle	N	5/28/02	<10	<10	
Sac	Black Hawk	N	5/20/02	<10	<10	
Sac	Arrowhead	N	5/20/02	<10	9	
Shelby	Prairie Rose	N	5/29/02	<10	3	
Shelby	Manteno	N	5/30/02	<10	6	
Story	Hickory Grove	N	6/3/02	<10	14	
Taylor	L of Three Fires	N	5/28/02	<10	<10	
Taylor	Wilson Park	N	5/28/02	<10	88	
Taylor	Windmill	N	5/29/02	<10	60	
Union	Thayer	N	5/28/02	<10	<10	
Union	Twelve Mile Creek L	Y	5/28/02	<10	37	
Union	Three Mile	Y	5/28/02	<10	24	
Union	Green Valley	N	5/28/02	<10	41	
Van Buren	L Sugema	N	6/5/02	<10	20	
Wapello	Ottumwa Lagoon	N	6/5/02	<10	18	
Warren	Hooper Area Pond	N	6/6/02	<10	17	
Warren	L Ahquabi	N	6/6/02	<10	13	
Washington	L Darling	N	6/4/02	<10	73	
Wayne	Bob White	N	6/5/02	<10	20	
Webster	Brushy Creek L	N	5/30/02	<10	<10	

Webster	Badger	N	5/23/02	<10	8	<10
Winneshiek	L Meyer	N	6/12/02	<10		<10
Woodbury	Little Sioux Park	N	5/20/02	<10		<10
Woodbury	Browns	N	5/20/02	<10		<10
Worth	Silver	N	6/11/02	<10		<10
Wright	L Cornelia	N	6/10/02	<10	15	<10