

Appendix 3. Pesticides analyzed in ground-water samples collected from northern and southern High Plains aquifer, Nebraska and Texas, 2003–04.

[USGS, U.S. Geological Survey; CAS, Chemical Abstracts Service; USEPA, U.S. Environmental Protection Agency; µg/L, micrograms per liter; NAL, northern High Plains agricultural land use; SAL, southern High Plains agricultural land use; ESA, ethanesulfonic acid; OA, oxanilic acid; SAA, sulfynil acetic acid; ESA SA, ethenesulfonic acid second amide; MCL, Maximum Contaminant Level; LTHA, Lifetime Health Advisory; --, no data]

Pesticide compound name	USGS parameter code	CAS number	Study area(s) sampled	Highest laboratory reporting level (µg/L)	Mean field-matrix spike recovery (percent)	Pesticide type	USEPA drinking-water standard (µg/L)/type of standard ¹
2,6-Diethylaniline	82660	579–66–8	NAL,SAL	0.006	98.3	degradate	--
3-trifluoromethylaniline (TFMA)	61742	98–16–8	SAL	.05	--	degradate	--
3-trifluoromethylphenyl-urea (TFMPU)	61741	13114–87–9	SAL	.05	--	degradate	--
Acetochlor	49260	34256–82–1	NAL,SAL	.006	107.5	herbicide	--
Acetochlor ESA	61029	--	NAL	.02	--	degradate	--
Acetochlor OA	61030	--	NAL	.02	--	degradate	--
Acetochlor SAA	62847	--	NAL	.02	--	degradate	--
Acetochlor/metolachlor ESA SA	62850	--	NAL	.02	--	degradate	--
Alachlor	46342	15972–60–8	NAL,SAL	.005	106.7	herbicide	2/MCL
Alachlor ESA	50009	--	NAL	.02	--	degradate	--
Alachlor ESA SA	62849	--	NAL	.02	--	degradate	--
Alachlor OA	61031	--	NAL	.02	--	degradate	--
Alachlor SAA	62848	140939–16–8	NAL	.02	--	degradate	--
Alpha-HCH	34253	319–84–6	NAL,SAL	.005	88.0	insecticide / degradate	
Atrazine	39632	1912–24–9	NAL,SAL	.007	118.3	herbicide	3/MCL
Azinphos-methyl ³	82686	86–50–0	NAL,SAL	.050	² 128.3	insecticide	--
Benfluralin	82673	1861–40–1	NAL,SAL	.010	83.6	herbicide	--
Butylate	04028	2008–41–5	NAL,SAL	.004	98.7	herbicide	400/LTHA
Carbaryl ³	82680	63–25–2	NAL,SAL	.041	² 120.9	insecticide	700/LTHA
Carbofuran ³	82674	1563–66–2	NAL,SAL	.020	² 121.4	insecticide	40/MCL
Chlorpyrifos	38933	2921–88–2	NAL,SAL	.005	93.3	insecticide	20/LTHA
<i>cis</i> -Permethrin	82687	54774–45–7	NAL,SAL	.006	65.3	insecticide	--
Cyanazine	04041	21725–46–2	NAL,SAL	.018	² 121.0	herbicide	1/LTHA
Cyanazine amide	61709	--	SAL	.05	--	degradate	--
DCPA	82682	1861–32–1	NAL,SAL	.003	109.1	herbicide	70/LTHA
Deethylatrazine (CIAT) ³	04040	6190–65–4	NAL,SAL	.006	² 45.7	degradate	--
Deisopropylatrazine (CEAT)	04038	1007–28–9	SAL	.05	--	degradate	--
Deisopropyl prometryn	61752	--	SAL	.05	--	degradate	--

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Demethylfluometuron (DMFM)	61753	--	SAL	0.05	--	degradate	--
Demethylnorflurazon	61754	--	SAL	.05	--	degradate	--
Desulfynil fipronil	62170	--	NAL,SAL	.012	117.5	degradate	--
Desulfynilfipronil amide	62169	--	NAL,SAL	.029	² 139.8	degradate	--
Diazinon	39572	333-41-5	NAL,SAL	.005	98.7	insecticide	0.6/LTHA
Dieldrin	39381	60-57-1	NAL,SAL	.009	94.5	insecticide	--
Dimethenamid	61588	87674-68-8	NAL,SAL	.05	--	herbicide	--
Dimethenamid ESA	61951	--	NAL	.02	--	degradate	--
Dimethanamid OA	62482	--	NAL	.02	--	degradate	--
Disulfoton	82677	298-04-4	NAL,SAL	.02	² 25.3	insecticide	0.3/LTHA
EPTC	82668	759-94-4	NAL,SAL	.004	96.9	herbicide	--
Ethalfuralin	82663	55283-68-6	NAL,SAL	.009	95.9	herbicide	--
Ethoprop	82672	13194-48-4	NAL,SAL	.005	95.3	insecticide	--
Fipronil	62166	120068-37-3	NAL,SAL	.016	² 137.9	insecticide	--
Fipronil sulfide	62167	120067-83-6	NAL,SAL	.013	116.2	degradate	--
Fipronil sulfone	62168	120068-36-2	NAL,SAL	.024	109.8	degradate	--
Flufenacet	62481	142459-58-3	NAL,SAL	.05	--	herbicide	--
Flufenacet ESA	61952	--	NAL	.02	--	degradate	--
Flufenacet OA	62483	--	NAL	.02	--	degradate	--
Fluometuron	38811	2164-17-2	SAL	.05	--	herbicide	90/LTHA
Fonofos	04095	944-22-9	NAL,SAL	.003	90.8	insecticide	10/LTHA
Lindane	39341	58-89-9	NAL,SAL	.004	90.5	insecticide	0.2/MCL
Linuron	82666	330-55-2	NAL,SAL	.035	² 121.1	herbicide	--
Malathion	39532	121-75-5	NAL,SAL	.027	112.0	insecticide	100/LTHA
Methyl parathion	82667	298-00-0	NAL,SAL	.015	97.9	insecticide	2/LTHA
Metolachlor	39415	51218-45-2	NAL,SAL	.013	107.5	herbicide	100/LTHA
Metolachlor ESA	61043	--	NAL	.02	--	degradate	--
Metolachlor OA	61044	--	NAL	.02	--	degradate	--
Metribuzin	82630	21087-64-9	NAL,SAL	.006	90.4	herbicide	200/LTHA
Molinate	82671	2212-67-1	NAL,SAL	.003	96.9	herbicide	--

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Napropamide	82684	15299–99–7	NAL,SAL	0.007	95.2	herbicide	--
Norflurazon	50332	27314–13–2	SAL	.05	--	herbicide	--
p,p'-DDE	34653	72–55–9	NAL,SAL	.003	77.8	degradate	--
Parathion	39542	56–38–2	NAL,SAL	.010	106.9	insecticide	--
Pebulate	82669	1114–71–2	NAL,SAL	.004	99.2	herbicide	--
Pendimethalin	82683	40487–42–1	NAL,SAL	.022	97.3	herbicide	--
Phorate	82664	298–02–2	NAL,SAL	.011	² 46.3	insecticide	--
Prometon	04037	1610–18–0	NAL,SAL	.01	106.0	herbicide	100 / LTHA
Prometryn	04036	7287–19–6	SAL	.05	--	herbicide	--
Propyzamide	82676	23950–58–5	NAL,SAL	.004	104.5	herbicide	50 / LTHA
Propachlor	04024	1918–16–7	NAL,SAL	.025	115.8	herbicide	90 / LTHA
Propachlor ESA	62766	--	NAL	.05	--	degradate	--
Propachlor OA	62767	--	NAL	.02	--	degradate	--
Propanil	82679	709–98–8	NAL,SAL	.011	112.3	herbidide	--
Propargite	82685	2312–35–8	NAL,SAL	.03	89.9	acaricide	--
Propazine	38535	139–40–2	SAL	.05	--	herbicide	10 / LTHA
Simazine	04035	122–34–9	NAL,SAL	.005	106.3	herbicide	4 / MCL
Tebuthiuron	82670	34014–18–1	NAL,SAL	.02	² 124.8	herbicide	500 / LTHA
Terbacil ³	82665	5902–51–2	NAL,SAL	.034	102.3	herbicide	90 / LTHA
Terbufos	82675	13071–79–9	NAL,SAL	.02	80.8	insecticide	0.9 / LTHA
Thiobencarb	82681	28249–77–6	NAL,SAL	.010	104.4	herbicide	--
Triallate	82678	2303–17–5	NAL,SAL	.002	89.9	herbicide	--
Trifluralin	82661	1582–09–8	NAL,SAL	.009	86.8	herbicide	5 / LTHA

¹Source: U.S. Environmental Protection Agency, 2004.

²Mean percentage recovery of compounds did not fall within the acceptable performance range (60 to 120 percent).

³These pesticides are qualitatively identified and reported with an E (estimated value) because of problems with gas chromatography or extraction or do not meet laboratory method performance criteria (Zaug and others, 1995).