

**Table 1 Retention times, optimized MS/MS analysis conditions, linear ranges, correlation coefficients (R<sup>2</sup>), limits of detection, limits of quantification of 187 pesticides**

No	Pesticides	Retention time(min)	Quantifier MRM transition(m/z)	Qualifier MRM transition(m/z)	Declustering potential(V)	Collision energies(V)	Linear range (µg kg <sup>-1</sup> )	Correlation coefficients(R <sup>2</sup> )	LOD (µg kg <sup>-1</sup> )	LOQ (µg kg <sup>-1</sup> )
Group A										
1	Propham	8.8	180.1/138.0	180.1/138.0;180.1/120.0	80	5;15	110-11000	0.9974	28	55
2	Isoprocarb	8.4	194.1/95.0	194.1/95.0;194.1/137.1	80	20;5	2.3-230	0.9988	0.58	1.2
3	Cycluron	7.7	199.4/72.0	199.4/72.0;199.4/89.0	120	25;15	0.21-21	0.9994	0.05	0.10
4	Carbaryl	7.5	202.1/145.1	202.1/145.1;202.1/127.1	80	10;5	10-1032	0.9937	2.6	5.2
5	Propachlor	8.8	212.1/170.1	212.1/170.1;212.1/94.1	100	10;30	0.27-27	0.9998	0.07	0.14
6	Rabenzazole	7.5	213.2/172.0	213.2/172.0;213.2/118.0	120	25;25	1.3-133	0.9999	0.34	0.67
7	Simetryn	5.3	214.2/124.1	214.2/124.1;214.2/96.1	120	20;25	0.14-14	0.9997	0.04	0.07
8	Monolinuron	7.8	215.1/126.0	215.1/126.0;215.1/148.1	100	15;10	3.6-356	0.9994	0.89	1.8
9	Mevinphos	5.2	225.0/127.0	225.0/127.0;225.0/193.0	80	15;1	1.6-157	0.9995	0.39	0.78
10	Aziprotryne	10.4	226.1/156.1	226.1/156.1;226.1/198.1	100	10;10	1.4-138	0.9965	0.35	0.69
11	Secbumeton	5.6	226.2/170.1	226.2/170.1;226.2/142.1	120	20;25	0.07-7.2	0.9998	0.02	0.04
12	Cyprodinil	9.2	226.0/93.0	226.0/93.0;226.0/108.0	120	40;30	0.74-74	0.9997	0.19	0.37
13	Buturon	9.4	237.1/84.1	237.1/84.1;237.1/126.1	120	30;15	9.0-896	0.9913	2.2	4.5
14	Carbetamide	5.8	237.1/192.1	237.1/192.1;237.1/118.1	80	5;10	3.6-364	0.9975	0.91	1.8
15	Pirmicarb	4.2	239.2/72.0	239.2/72.0;239.2/182.2	120	20;15	0.15-15	0.9998	0.04	0.08
16	Clomazone	9.4	240.1/125.0	240.1/125.0;240.1/89.1	100	20;50	0.42-42	0.9961	0.11	0.21
17	Cyanazine	6.4	241.1/214.1	241.1/214.1;241.1/174.0	120	15;15	0.16-16	0.9998	0.04	0.08
18	Prometryne	7.7	242.2/158.1	242.2/158.1;242.2/200.2	120	20;20	0.16-16	0.9992	0.04	0.08
19	Paraoxon methyl	6.2	248.0/202.1	248.0/202.1;248.0/90.0	120	20;30	0.76-76	1.0000	0.19	0.38
20	Thiacloprid	5.7	253.1/126.1	253.1/126.1;253.1/186.1	120	20;10	0.37-37	0.9999	0.10	0.19
21	Imidacloprid	4.7	256.1/209.1	256.1/209.1;256.1/175.1	80	10;10	22-2200	0.9957	5.5	11
22	cis and trans Diallylate	17.4	270.0/86.0	270.0/86.0;270.0/109.0	100	15;35	89-8920	0.9952	22	45
23	Acetochlor	13.7	270.2/224.0	270.2/224.0;270.2/148.2	80	5;20	47-4740	0.9966	12	24
24	Methoprotryne	6.5	272.2/198.2	272.2/198.2;272.2/170.1	140	25;30	0.24-24	0.9999	0.06	0.12
25	Dimethenamid	10.5	276.1/244.1	276.1/244.1;276.1/168.1	120	10;15	4.3-430	0.9980	1.1	2.2
26	Terrbucarb	16.5	278.2/166.1	278.2/166.1;278.2/109.0	80	15;30	2.1-210	0.9996	0.53	1.1
27	Penconazole	13.7	284.1/70.0	284.1/70.0;284.1/159.0	120	15;20	2.0-200	0.9996	0.50	1.0

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28	Paclbutrazol	10.3	294.2/70.0	294.2/70.0;294.2/125.0	100	15;25	0.57-57	0.9999	0.15	0.29
29	Fenthion sulfoxide	7.3	295.1/109.0	295.1/109.0;295.1/280.0	140	35;20	0.31-31	0.9997	0.08	0.16
30	Triadimenol	10.2	296.1/70.0	296.1/70.0;296.1/99.1	80	10;10	11-1055	0.9997	2.6	5.3
31	Spiroxamine	9.9	298.2/144.2	298.2/144.2;298.2/100.1	120	20;35	0.05-5.2	0.9997	0.02	0.03
32	Tolclofos methyl	16.6	301.2/269.0	301.2/269.0;301.2/125.2	120	15;20	67-6656	0.9947	17	33
33	Methidathion	10.7	303.0/145.1	303.0/145.1;303.0/85.0	80	5;10	11-1066	0.9947	2.7	5.3
34	Allethrin	18.1	303.2/135.1	303.2/135.1;303.2/123.2	60	10;20	60-6040	0.9941	15	30
35	Diazinon	16.0	305.0/169.1	305.0/169.1;305.0/153.2	160	20;20	0.71-71	1.0000	0.18	0.36
36	Edifenphos	3.0	311.1/283.0	311.1/283.0;311.1/109.0	100	10;35	0.75-75	0.9951	0.19	0.38
37	Flusilazole	13.6	316.1/247.1	316.1/247.1;316.1/165.1	120	15;20	0.58-58	0.9999	0.15	0.29
38	Benodanil	9.8	324.1/203.0	324.1/203.0;324.1/231.0	120	25;40	3.5-348	0.9998	0.87	1.7
39	Flutolanil	14.0	324.2/262.1	324.2/262.1;324.2/282.1	120	20;10	1.2-115	0.9989	0.29	0.57
40	Famphur	10.3	326.0/217.0	326.0/217.0;326.0/281.0	100	20;10	3.6-360	0.9996	0.90	1.8
41	Benalaxyl	15.2	326.2/148.1	326.2/148.1;326.2/294.0	120	1;5	1.2-124	0.9997	0.31	0.62
42	Ethaconazole	11.8	328.1/159.1	328.1/159.1;328.1/205.1	80	25;20	1.8-178	0.9996	0.45	0.89
43	Bitertanol	13.9	338.2/70.0	338.2/70.0;338.2/269.2	60	5;1	33-3340	0.9948	8.4	17
44	Azinphos ethyl	14.0	346.0/233.0	346.0/233.0;346.0/261.1	120	10;5	109-10893	0.9925	27	54
45	Triflumuron	15.6	359.0/156.1	359.0/156.1;359.0/139.0	120	15;30	3.9-392	0.9999	0.98	2.0
46	Quizalofop-ethyl	17.4	373.0/299.1	373.0/299.1;373.0/91.0	140	15;30	0.68-68	1.0000	0.17	0.34
47	Fluazifop butyl	18.2	384.1/282.1	384.1/282.1;384.1/328.1	120	20;15	0.26-26	1.0000	0.07	0.13
48	Bensulide	16.2	398.0/158.1	398.0/158.1;398.0/314.0	80	20;5	34-3420	0.9903	8.6	17
49	Bromfenvinfos	15.2	402.9/170.0	402.9/170.0;402.9/127.0	100	35;20	3.0-302	0.9963	0.76	1.5
50	Azoxystrobin	12.5	404.0/372.0	404.0/372.0;404.0/344.1	120	10;15	0.45-45	0.9999	0.12	0.23
51	Pyrazophos	16.2	374.0/222.0	374.0/222.0;374.0/194.0	120	20;30	1.6-162	0.9991	0.41	0.81
52	Flufenoxuron	18.3	489.0/158.1	489.0/158.1;489.0/141.1	80	10;15	3.2-317	0.9978	0.79	1.6
53	Indoxacarb	17.4	528.0/150.0	528.0/150.0;528.0/218.0	120	20;20	7.5-754	0.9996	1.9	3.8
Group B										
54	Diethyltoluamide	7.7	192.2/119.0	192.2/119.0;192.2/91.0	100	15;30	0.55-55	0.9998	0.14	0.28
55	Monuron	5.9	199.0/72.0	199.0/72.0;199.0/126.0	120	15;15	35-3474	0.9902	8.7	17

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56	Pyrimethanil	6.7	200.2/107.0	200.2/107.0;200.2/183.1	120	25;25	0.68-68	1.0000	0.17	0.34
57	Fenobucarb	9.9	208.2/95.0	208.2/95.0;208.2/152.1	80	10;5	5.9-590	0.9984	1.5	3.0
58	Propanil	9.1	218.0/162.1	218.0/162.1;218.0/127.0	120	15;20	22-2159	0.9994	5.4	11
59	Carbofuran	6.8	222.3/165.1	222.3/165.1;222.3/123.1	120	5;20	13-1306	0.9949	0.20	0.40
60	Acetamiprid	4.9	223.2/126.0	223.2/126.0;223.2/56.0	120	15;15	1.4-144	0.9969	0.36	0.72
61	Mepanipyrim	12.2	224.2/77.0	224.2/77.0;224.2/106.0	120	30;25	0.32-32	0.9999	0.08	0.16
62	Prometon	5.4	226.2/142.0	226.2/142.0;226.2/184.1	120	20;20	0.13-13	0.9996	0.04	0.07
63	Metoxuron	5.6	229.1/72.0	229.1/72.0;229.1/156.1	120	20;20	0.64-64	0.9964	0.16	0.32
64	Dimethoate	4.9	230.0/199.0	230.0/199.0;230.0/171.0	80	5;10	7.6-760	0.9968	1.9	3.8
65	Fluometuron	7.3	233.1/72.0	233.1/72.0;233.1/160.0	120	20;20	0.92-92	0.9922	0.23	0.46
66	Dicrotophos	4.0	238.1/112.1	238.1/112.1;238.1/193.0	80	10;5	1.1-114	0.9985	0.29	0.57
67	Monalide	14.5	240.1/85.1	240.1/85.1;240.1/57.0	120	15;35	1.2-120	0.9992	0.30	0.60
68	Diphenamid	9.0	240.1/134.1	240.1/134.1;240.1/167.1	120	20;25	0.14-14	0.9999	0.04	0.07
69	Ethoprophos	12.0	243.1/173.0	243.1/173.0;243.1/215.0	120	10;10	2.8-276	0.9992	0.69	1.4
70	Dimethametryn	8.8	256.2/186.1	256.2/186.1;256.2/96.1	140	20;35	0.11-11	0.9998	0.03	0.06
71	Bromacil	5.8	261.0/205.0	261.0/205.0;261.0/188.0	80	10;20	24-2360	0.9989	5.9	12
72	Brompyrazon	4.7	266.0/92.0	266.0/92.0;266.0/104.0	120	30;30	3.6-360	0.9936	0.90	1.8
73	Mepronil	13.2	270.2/119.1	270.2/119.1;270.2/228.2	100	30;15	0.38-38	0.9981	0.10	0.19
74	Metalaxyl	7.8	280.1/192.2	280.1/192.2;280.1/220.2	120	15;20	0.50-50	0.9986	0.13	0.25
75	Ofurace	7.7	282.1/160.2	282.1/160.2;282.1/254.2	120	20.1	1.0-100	0.9933	0.25	0.50
76	Imazamethabenz-methyl	5.3	289.1/229.0	289.1/229.0;289.1/86.0	120	15;25	0.16-16	0.9986	0.04	0.08
77	Imazalil	6.9	297.0/159.0	297.0/159.0;297.0/255.0	120	20;20	2.0-200	0.9994	0.50	1.0
78	Phoxim	16.8	299.0/77.0	299.0/77.0;299.0/129.0	80	20;10	83-8280	0.9935	21	41
79	Quinaphos	14.8	299.1/147.1	299.1/147.1;299.1/163.1	120	20;20	2.0-200	0.9976	0.50	1.0
80	Pyrimitate	14.0	306.1/170.2	306.1/170.2;306.1/154.2	120	20;20	0.17-17	0.9999	0.05	0.09
81	Fensulfothion	8.6	309.0/157.1	309.0/157.1;309.0/253.0	120	25;15	2.0-200	0.9980	0.50	1.0
82	Fluorochloridone	13.8	312.1/292.1	312.1/292.1;312.1/89.0	100	25;25	14-1378	0.9965	3.5	6.9
83	Butachlor	18.0	312.2/238.1	312.2/238.1;312.2/162.0	80	10;20	20-2007	0.9937	5.0	10
84	Kresoxim-methyl	15.2	314.1/267.0	314.1/267.0;314.1/206.0	80	5;5	101-10058	0.9950	25	50

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85	Fenamiphos sulfoxide	5.9	320.1/171.1	320.1/171.1;320.1/292.1	140	25;15	0.74-74	0.9970	0.19	0.37
86	Thenylchlor	14.0	324.1/127.0	324.1/127.0;324.1/59.0	80	10;45	24-2414	0.9918	6.0	12
87	Chlorphoxim	17.2	333.0/125.0	333.0/125.0;333.0/163.1	80	5;5	78-7757	0.9916	19	39
88	Fenamiphos sufon	6.6	336.1/188.2	336.1/188.2;336.1/266.2	120	30;20	0.45-45	0.9921	0.11	0.22
89	Fenbuconazole	13.4	337.1/70.0	337.1/70.0;337.1/125.0	120	20;20	1.7-165	0.9998	0.41	0.82
90	Phenothrin	19.7	351.1/183.2	351.1/183.2;351.1/237.0	100	15;5	339-33920	0.9957	85	170
91	Piperophos	17.0	354.1/171.0	354.1/171.0;354.1/143.0	100	20;30	9.2-924	0.9952	2.3	4.6
92	Oxyfluorfen	18.0	362.0/316.1	362.0/316.1;362.0/237.1	120	10;25	59-5855	0.9983	15	29
93	Coumaphos	16.4	363.1/227.2	363.1/227.2;363.1/307.1	120	20;15	2.1-210	0.9991	0.53	1.1
94	Flufenacet	14.0	364.0/194.0	364.0/194.0;364.0/152.0	80	5;10	5.3-530	0.9996	1.3	2.7
95	Methoxyfenozide	13.4	313.0/149.0	313.0/149.0;313.0/91.0	100	10;35	3.7-370	0.9979	0.93	1.9
96	Aspon	19.2	379.1/115.0	379.1/115.0;379.1/210.0	80	30;15	1.7-173	0.9908	0.44	0.87
97	Ethion	18.5	385.0/199.1	385.0/199.1;385.0/171.0	80	5;15	3.0-296	0.9939	0.74	1.5
98	Dithiopyr	17.8	402.0/354.0	402.0/354.0;402.0/272.0	120	20;30	10-1040	0.9917	2.6	5.2
99	Fenpyroximate	18.7	422.2/366.2	422.2/366.2;422.2/135.0	120	10;35	1.4-136	0.9991	0.34	0.68
Group C										
100	Thiabendazole	3.3	202.1/175.1	202.1/175.1;202.1/131.1	120	30;30	0.49-49	0.9971	0.12	0.24
101	Metamitron	4.2	203.1/175.1	203.1/175.1;203.1/104.0	120	15;20	6.4-636	0.9993	1.6	3.2
102	Isoproturon	7.4	207.2/72.0	207.2/72.0;207.2/165.1	120	15;15	0.14-14	0.9999	0.04	0.07
103	Atratone	4.5	212.2/170.2	212.2/170.2;212.2/100.1	120	15;30	0.18-18	0.9999	0.05	0.09
104	DMST	7.1	215.3/106.1	215.3/106.1;215.3/151.2	80	10;5	40-4000	0.9920	10	20
105	Cycloate	16.0	216.2/83.0	216.2/83.0;216.2/154.1	120	15;10	4.4-444	0.9971	1.1	2.2
106	Atrazine	7.2	216.0/174.2	216.0/174.2;216.0/132.0	120	15;20	0.36-36	0.9987	0.09	0.18
107	Butylate	17.2	218.1/57.0	218.1/57.0;218.1/156.2	80	10;5	302-30200	0.9927	76	151
108	Chloridazon	4.4	222.1/104.0	222.1/104.0;222.1/92.0	120	25;35	2.3-233	0.9989	0.58	1.2
109	Sufallate	15.3	224.1/116.1	224.1/116.1;224.1/88.2	100	10;20	207-20720	0.9962	52	104
110	Terbumeton	5.3	226.2/170.1	226.2/170.1;226.2/114.0	120	15;20	0.10-9.6	0.9997	0.03	0.05
111	Cyprazine	7.2	228.2/186.1	228.2/186.1;228.2/108.1	120	15;25	0.43-43	0.9997	0.01	0.02
112	Tebuthiuron	5.3	229.2/172.2	229.2/172.2;229.2/116.0	120	15;20	0.22-22	0.9999	0.06	0.11

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113	Trietazine	12.0	230.1/202.0	230.1/202.0;230.1/132.1	160	20;20	0.60-60	0.9998	0.15	0.30
114	Sebutylazine	8.7	230.1/174.1	230.1/174.1;230.1/104.0	120	15;30	0.31-31	0.9998	0.08	0.16
115	Tebutam	13.0	234.2/91.1	234.2/91.1;234.2/192.2	120	20;15	0.14-14	0.9995	0.04	0.07
116	Thionazin	8.8	249.1/97.0	249.1/97.0;249.1/193.0	80	30;10	23-2268	0.9990	5.7	11
117	Heptanophos	7.9	251.0/127.0	251.0/127.0;251/109.0	80	10;30	5.8-584	0.9971	1.5	2.9
118	Prosulfocarb	17.1	252.1/91.0	252.1/91.0;252.1/128.1	120	15;10	0.37-37	0.9997	0.09	0.18
119	Dipropetryn	8.6	256.1/144.1	256.1/144.1;256.1/214.0	140	30;20	0.27-27	1.0000	0.07	0.14
120	Thiobencarb	15.8	258.1/125.0	258.1/125.0;258.1/89.0	80	20;55	3.3-330	0.9971	0.83	1.7
121	Tri-iso-butyl phosphate	15.5	267.1/99.0	267.1/99.0;267.1/155.1	80	20;5	36-3576	0.9983	0.90	1.8
122	Tri-n-butyl-phosphate	15.5	267.2/99.0	267.2/99.0;267.2/155.1	80	5;15	0.37-37	0.9983	0.10	0.19
123	Diethofencarb	10.4	268.1/226.2	268.1/226.2;268.1/152.1	80	5;20	2.0-200	0.9995	0.50	1.0
124	Alachlor	13.2	270.2/238.2	270.2/238.2;270.2/162.2	80	10;20	7.4-740	0.9979	1.9	3.7
125	Metazachlor	8.4	278.1/134.1	278.1/134.1;278.1/210.1	80	20;5	0.98-98	0.9994	0.25	0.49
126	Simeconazole	11.0	294.2/70.1	294.2/70.1;294.2/135.1	120	15;15	2.9-294	0.9998	0.74	1.5
127	Phorate sulfone	9.3	293.0/171.0	293.0/171.0;293.0/143.1	60	5;15	42-4200	0.9955	11	21
128	Mefenacet	11.6	299.1/148.1	299.1/148.1;299.1/120.1	100	15;25	2.2-221	0.9998	0.55	1.1
129	Fenpropimorph	9.1	304.0/147.2	304.0/147.2;304.0/130.0	120	30;30	0.18-18	1.0000	0.05	0.09
130	Tebuconazole	12.4	308.2/70.0	308.2/70.0;308.2/125.0	100	25;25	2.2-223	0.9998	0.56	1.1
131	Isoproalin	19.1	310.2/225.7	310.2/225.7;310.2/207.7	120	15;20	30-3000	0.9906	7.5	15
132	Tebupirimfos	18.2	319.1/277.1	319.1/277.1;319.1/153.2	120	10;30	0.13-13	0.9946	0.03	0.06
133	Phenthoate	15.6	321.1/247.0	321.1/247.0;321.1/163.1	80	5;10	92-9235	0.9907	23	46
134	Sulfotep	16.4	323.0/171.1	323.0/171.1;323.0/143.0	120	10;20	2.6-260	0.9945	0.65	1.3
135	Sulprofos	18.4	323.0/219.1	323.0/219.1;323.0/247.0	120	15;10	5.8-584	0.9976	1.5	2.9
136	EPN	17.1	324.0/296.0	324.0/296.0;324.0/157.1	120	10;20	33-3300	0.9947	8.3	17
137	Diniconazole	13.7	326.1/70.0	326.1/70.0;326.1/159.0	120	25;30	1.3-134	0.9997	0.34	0.67
138	Pencycuron	16.3	329.2/125.0	329.2/125.0;329.2/218.1	120	20;15	0.27-27	0.9995	0.07	0.14
139	Pyributicarb	18.3	331.1/181.1	331.1/181.1;331.1/108.0	120	10;20	0.34-34	0.9996	0.09	0.17
140	Pyridaphenthion	12.3	341.1/189.2	341.1/189.2;341.1/205.2	120	20;20	0.87-87	0.9998	0.22	0.44
141	Pirimiphos	4.2	239.2/72.0	239.2/72.0;239.2/182.2	120	20;15	0.48-48	0.9982	0.01	0.02

No	Pesticides	Retention time(min)	Quantifier MRM transition(m/z)	Qualifier MRM transition(m/z)	Declustering potential(V)	Collision energies(V)	Linear range ( $\mu\text{g kg}^{-1}$ )	Correlation coefficients( $R^2$ )	LOD ( $\mu\text{g kg}^{-1}$ )	LOQ ( $\mu\text{g kg}^{-1}$ )
142	Pyraclufos	15.3	361.1/257.0	361.1/257.0;361.1/138.0	120	25;35	1.0-100	0.9996	0.25	0.50
143	Picoxystrobin	15.4	368.1/145.0	368.1/145.0;368.1/205.0	80	20;5	8.4-844	0.9936	2.1	4.2
144	Tetraconazole	12.5	372.0/159.0	372.0/159.0;372.0/70.0	120	35;35	1.7-172	0.9996	0.43	0.86
145	Mefenpyr-diethyl	16.8	373.0/327.0	373.0/327.0;373.0/160.0	80	15;35	13-1256	0.9918	3.1	6.3
146	Profenfos	16.7	373.0/302.9	373.0/302.9;373.0/345.0	120	15;10	2.0-202	0.9990	0.51	1.0
147	Pyraclostrobin	16.0	388.0/163.0	388.0/163.0;388.0/194.0	120	20;10	0.51-51	0.9993	0.13	0.25
148	Thiazopyr	16.2	397.1/377.0	397.1/377.0;397.1/335.1	140	20;30	2.0-196	0.9981	0.49	0.98
149	Chlorfluazuron	18.5	540.0/383.0	540.0/383.0;540.0/158.2	120	15;15	8.7-868	0.9958	2.2	4.3
Group D										
150	Methomyl	3.8	163.2/88.1	163.2/88.1;163.2/106.1	80	5;10	9.6-956	0.9906	2.4	4.8
151	Pyroquilon	5.9	174.1/117.1	174.1/117.1;174.1/132.2	140	35;25	3.5-348	0.9922	0.87	1.7
152	Fuberidazole	3.7	185.2/157.2	185.2/157.2;185.2/92.1	120	20;25	1.9-189	0.9907	0.48	0.95
153	Isocarbamid	4.4	186.2/87.1	186.2/87.1;186.2/130.1	80	20;5	1.7-170	0.9960	0.43	0.85
154	Aminocarb	0.8	209.3/137.1	209.3/137.1;209.3/152.1	100	20;10	16-1642	0.9901	4.1	8.2
155	Dimethirimol	4.2	210.2/71.1	210.2/71.1;210.2/140.0	120	25;20	0.12-12	0.9942	0.03	0.06
156	Imazapic	4.8	276.2/163.2	276.2/163.2;276.2/216.2;276.2/86.1	120	20;20;25	5.9-590	0.9979	1.5	3.0
157	Uniconazole	11.7	292.1/70.1	292.1/70.1;292.1/125.1	120	30;30	2.4-240	0.9994	0.60	1.2
158	Triallate	18.5	304.0/143.0	304.0/143.0;304.0/86.1	120	25;15	46-4620	0.9960	12	23
159	Quinoxiphen	17.1	308.0/197.0	308.0/197.0;308.0/272.0	180	35;35	153-15340	0.9971	38	77
160	Terbufos sulfone	12.6	321.2/171.1	321.2/171.1;321.2/143.0	80	5;15	89-8860	0.9957	22	44
161	Resmethrin	12.4	339.2/171.1	339.2/171.1;339.2/143.1	80	10;25	0.30-30	0.9984	0.08	0.15
162	Benzoylprop-ethyl	13.7	378.2/184.1	378.2/184.1;378.2/150.2	140	15;40	308-30800	0.9927	77	154
163	1-Naphthy acetamide	5.3	186.2/141.1	186.2/141.1;186.2/115.1	100	15;45	0.81-81	0.9989	0.21	0.41
164	Atrazine-desethyl	4.4	188.2/146.1	188.2/146.1;188.2/104.1	120	10;20	0.62-62	0.9979	0.16	0.31
165	2,6-Dichlorobenzamide	3.9	190.1/173.0	190.1/173.0;190.1/145.0	100	20;30	4.5-450	0.9914	1.1	2.3
166	Aldicarb	5.4	213.0/89.0	213.0/89.0;213.0/116.0	100	30;10	261-26100	0.9992	65	131
167	Simeton	3.9	198.2/100.1	198.2/100.1;198.2/128.2	120	25;20	1.1-110	0.9954	0.28	0.55
168	Acibenzolar-S-methyl	10.0	211.1/91.0	211.1/91.0;211.1/136.0	120	20;30	3.1-308	0.9998	0.77	1.5
169	Methabenzthiazuron	6.8	222.2/165.1	222.2/165.1;222.2/149.9	100	15;35	0.07-7.3	0.9999	0.02	0.04

No	Pesticides	Retention time(min)	Quantifier MRM transition(m/z)	Qualifier MRM transition(m/z)	Declustering potential(V)	Collision energies(V)	Linear range ( $\mu\text{g kg}^{-1}$ )	Correlation coefficients( $R^2$ )	LOD ( $\mu\text{g kg}^{-1}$ )	LOQ ( $\mu\text{g kg}^{-1}$ )
170	Demeton-S-methyl sulfoxide	3.4	247.1/109	247.1/109.0;247.1/169.1	80	20;10	3.9-392	0.9992	0.98	2.0
171	Phosfolan	5.0	256.2/140.0	256.2/140.0;256.2/228.0	100	25;10	0.49-49	0.9994	0.12	0.24
172	Fenthion oxon	8.2	263.2/230.0	263.2/230.0;263.2/216.0	100	10;20	1.2-119	0.9992	0.30	0.59
173	Fenitrothion	13.6	278.1/125.0	278.1/125.0;278.1/246.0	140	15;15	27-2680	0.9998	6.7	13
174	Phthalic acid, dibutyl ester	17.5	279.2/149.0	279.2/149.0;279.2/121.1	80	10;45	40-3960	0.9950	9.9	20
175	Metolachlor	13.2	284.1/252.2	284.1/252.2;284.1/176.2	120	10;15	0.39-39	0.9987	0.10	0.20
176	Procymidone	13.3	284.0/256.0	284.0/256.0;284.0/145.0	140	10;45	87-8660	0.9963	22	43
177	Vamidothion	4.2	288.2/146.1	288.2/146.1;288.2/118.1	80	10;20	4.6-456	0.9935	1.1	2.3
178	Cumyluron	11.7	303.3/185.1	303.3/185.1;303.3/125.0	100	5;45	1.3-132	0.9999	0.33	0.66
179	Pyrethrin	14.9	329.1/161.1	329.1/161.1;329.1/133.1	100	5;15	36-3580	0.9995	9.0	18
180	Phthalic acid, bicyclohexyl ester	19.1	331.3/149.1	331.3/149.1;331.3/167.1;331.3/249.0	80	10;5;5	0.68-68	0.9996	0.17	0.34
181	Carpropamid	15.4	334.2/196.1	334.2/196.1;334.2/139.1	120	10;15	5.2-520	0.9979	1.3	2.6
182	Tebufenozide	14.7	297.0/133.0	297.0/133.0;297.0/105.0	80	15;35	28-2780	0.9900	7.0	14
183	Chlorthiophos	18.6	361.0/305.0	361.0/305.0;361/225.0	100	10;15	32-3180	0.9956	8.0	16
184	Imibenconazole	17.2	411.0/125.1	411.0/125.1;411.0/171.1;411/342.0	120	25;15;10	10-1026	0.9931	2.6	5.1
185	Propaquiafop	17.6	444.2/100.1	444.2/100.1;444.2/299.1	140	15;25	1.2-124	1.0000	0.31	0.62
186	Lactofen	18.2	479.1/344.0	479.1/344.0;479.1/223.0	120	15;35	62-6200	0.9905	16	31
187	Propisochlor	15.0	284.0/224.0	284.0/224.0;284.0/212.0	80	5;15	0.80-80	0.9955	0.20	0.40

**Table 2 Mobile phase and flow rate for pesticides**

Approach	Time (min)	Flow rate ( $\mu\text{L min}^{-1}$ )	Mobile phase A: 0.1% Formic acid/water (%)	Mobile phase B: Acetonitrile (%)
0	0.0	400	99	1
1	3.0	400	70	30
2	6.0	400	60	40
3	9.0	400	60	40
4	15.0	400	40	60
5	19.0	400	1	99
6	23.0	400	1	99
7	23.01	400	99	1

**Table 3 Tested mobile phase programs**

Time( min)	Flow rate( $\mu\text{L min}^{-1}$ )	0.1% Formic acid/water (%)	Acetonitrile (%)
<b>Program 1</b>			
0.0	400	99	1
4.0	200	50	50
15.0	200	40	60
20.0	200	20	80
23.0	200	1	99
23.01	200	99	1
<b>Program 2</b>			
0.0	400	99	1
4.0	200	45	45
10.0	200	40	60
15.0	200	20	80
20.0	200	1	99
23.0	200	1	99
23.01	200	99	1
<b>Program 3</b>			
0.0	400	99	1
3.0	400	70	30
9.0	400	60	40
15.0	400	40	60
19.0	400	1	99
23.0	400	1	99
23.01	400	99	1
<b>Program 4</b>			
0.0	400	99	1
3.0	400	70	30
6.0	400	60	40
9.0	400	60	40
15.0	400	40	60
19.0	400	1	99
23.0	400	1	99
23.01	400	99	1



**Table 4 Recovery and precision data for 187 pesticide residues in edible fungi (n=5)**

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
1	Propham	55	85	89	106	84	91	11	220	93	79	111	86	92	15
2	Isoprocarb	1.2	68	94	114	92	92	20	4.6	99	86	107	90	96	9.8
3	Cycluron	0.1	86	91	118	94	97	15	0.4	98	84	118	91	98	15
4	Carbaryl	5.2	93	94	90	81	90	6.3	21	97	90	94	61	86	19
5	Propachlor	0.14	76	86	135	93	97	27	0.56	85	86	111	87	92	14
6	Rabenzazole	0.67	87	88	107	84	91	12	2.7	96	85	115	88	96	14
7	Simetryn	0.07	85	92	115	93	96	14	0.28	91	90	117	89	97	14
8	Monolinuron	1.8	91	92	120	95	100	14	7.1	92	88	110	93	96	10
9	Mevinphos	0.78	65	82	104	81	83	20	3.1	81	83	102	87	88	11
10	Aziprotryne	0.69	87	109	96	100	98	9.3	2.8	79	86	100	111	94	15
11	Secbumeton	0.04	86	89	115	83	93	16	0.16	96	88	114	98	99	11
12	Cyprodinil	0.37	102	92	117	88	100	13	1.5	90	86	113	99	97	12
13	Buturon	4.5	91	92	119	90	98	14	18	93	89	115	107	101	12
14	Carbetamide	1.8	94	91	117	89	98	13	7.3	94	88	105	92	95	7.8
15	Pirmicarb	0.08	103	91	113	72	95	19	0.32	104	85	96	71	89	16
16	Clomazone	0.21	92	92	104	94	95	5.9	0.84	97	91	116	93	99	12
17	Cyanazine	0.08	111	95	107	96	102	7.8	0.32	90	90	110	96	97	9.6
18	Prometryne	0.08	88	90	100	94	93	5.6	0.32	89	87	118	101	99	14
19	Paraoxon methyl	0.38	89	85	96	96	91	5.9	1.5	89	82	89	83	86	4.4
20	Thiacloprid	0.19	90	105	110	91	99	10	0.76	94	90	99	103	96	5.9
21	Imidacloprid	11	92	89	127	113	105	17	44	92	89	120	93	99	14
22	cis and trans Diallylate	45	89	92	115	91	97	12	178	92	80	102	93	92	10
23	Acetochlor	24	89	96	84	91	90	5.8	95	115	88	156	99	114	26
24	Methoprotryne	0.12	90	85	121	89	96	17	0.48	93	81	114	93	95	14
25	Dimethenamid	2.2	89	97	121	90	99	15	8.6	90	91	121	98	100	14
26	Terrbucarb	1.1	83	92	105	82	90	12	4.2	104	94	110	96	101	7.1

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
27	Penconazole	1.0	91	93	134	90	102	21	4.0	96	87	117	101	100	12
28	Paclobutrazol	0.29	87	93	120	94	98	15	1.2	92	89	116	99	99	12
29	Fenthion sulfoxide	0.16	137	82	94	89	100	25	0.64	98	85	118	101	100	13
30	Triadimenol	5.3	93	94	115	89	98	12	21	96	90	115	90	98	12
31	Spiroxamine	0.03	72	87	102	74	84	16	0.12	69	86	114	91	90	21
32	Tolclofos methyl	33	91	92	112	86	95	12	133	97	81	103	90	93	10
33	Methidathion	5.3	87	92	104	90	93	7.8	21	96	93	110	101	100	7.4
34	Allethrin	30	82	102	85	103	93	12	121	91	86	81	79	84	6.2
35	Diazinon	0.36	78	94	117	88	94	18	1.4	86	85	118	101	98	16
36	Edifenphos	0.38	96	85	114	91	96	13	1.5	109	88	110	90	99	12
37	Flusilazole	0.29	92	93	122	93	100	15	1.2	96	85	115	99	99	13
38	Benodanil	1.7	109	95	109	90	101	9.6	7.0	93	86	110	108	99	12
39	Flutolanil	0.57	80	94	109	87	92	13	2.3	117	91	112	102	106	11
40	Famphur	1.8	91	95	109	86	95	11	7.2	93	91	111	99	98	9.1
41	Benalaxyl	0.62	91	103	124	70	97	23	2.5	91	87	119	136	108	22
42	Ethaconazole	0.89	93	92	117	89	98	13	3.6	91	88	121	118	104	17
43	Bitertanol	17	93	93	114	87	97	12	67	98	91	117	101	102	11
44	Azinphos ethyl	54	90	93	112	103	99	10	218	102	90	114	88	98	12
45	Triflumuron	2.0	80	101	110	98	98	13	7.8	92	83	110	90	94	13
46	Quizalofop-ethyl	0.34	83	90	111	97	95	13	1.4	88	84	104	92	92	9.3
47	Fluazifop butyl	0.13	95	92	116	79	95	16	0.52	97	84	84	88	88	6.6
48	Bensulide	17	60	88	115	79	85	27	68	94	96	105	83	95	9.3
49	Bromfenvinfos	1.5	99	96	111	67	93	20	6.0	94	79	113	83	92	17
50	Azoxystrobin	0.23	94	98	147	85	106	27	0.92	91	88	120	102	100	14
51	Pyrazophos	0.81	74	91	112	80	89	19	3.2	95	90	124	91	100	16
52	Flufenoxuron	1.6	128	108	82	86	101	21	6.3	100	81	82	80	86	11
53	Indoxacarb	3.8	85	105	116	92	99	14	15	92	95	99	84	93	6.8

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
54	Diethyltoluamide	0.28	95	122	107	106	108	11	1.1	94	120	100	98	103	11
55	Monuron	17	108	101	85	106	100	10	69	102	107	102	96	102	4.4
56	Pyrimethanil	0.34	103	107	95	98	101	5.3	1.4	91	112	108	88	99	12
57	Fenobucarb	3.0	149	92	85	112	109	27	12	100	105	112	98	104	5.8
58	Propanil	11	102	96	100	107	101	4.5	43	104	109	107	98	105	4.4
59	Carbofuran	6.5	111	93	66	101	93	21	26	101	103	115	92	103	8.9
60	Acetamiprid	0.72	89	88	74	105	89	14	2.9	81	105	99	91	94	11
61	Mepanipyrim	0.16	78	104	107	123	103	18	0.64	99	102	104	103	102	2.2
62	Prometon	0.07	98	99	105	112	104	6.5	0.28	89	111	102	98	100	9.0
63	Metoxuron	0.32	129	109	82	109	107	18	1.3	114	123	86	92	104	17
64	Dimethoate	3.8	101	90	62	106	90	22	15	105	99	113	90	102	9.5
65	Fluometuron	0.46	106	88	83	97	93	11	1.8	102	92	103	97	98	5.2
66	Dicrotophos	0.57	75	72	56	77	70	14	2.3	81	118	101	87	97	17
67	Monalide	0.6	124	79	95	117	104	20	2.4	112	92	105	100	102	8.4
68	Diphenamid	0.07	114	109	114	107	111	3.3	0.28	102	115	100	105	106	6.4
69	Ethoprophos	1.4	118	93	95	108	104	11	5.5	100	107	107	96	103	5.1
70	Dimethametryn	0.06	114	94	100	106	103	8.4	0.24	95	112	109	97	103	8.3
71	Bromacil	12	115	94	90	106	101	11	47	109	106	105	93	103	6.9
72	Brompyrazon	1.8	116	117	75	103	103	19	7.2	103	100	96	84	96	8.6
73	Mepronil	0.19	118	105	90	98	103	12	0.76	105	101	109	85	100	11
74	Metalaxyl	0.25	126	98	104	102	108	12	1.0	102	112	103	96	103	6.2
75	Ofurace	0.5	114	102	73	103	98	18	2.0	100	93	114	90	99	11
76	Imazamethabenz-methyl	0.08	105	99	102	89	99	6.9	0.32	104	111	99	91	101	8.3
77	Imazalil	1.0	107	87	95	110	100	11	4.0	90	98	101	108	99	7.4
78	Phoxim	41	119	93	74	88	94	20	166	95	100	89	100	96	5.6
79	Quinaphos	1.0	112	80	96	106	99	14	4.0	101	91	104	59	89	23
80	Pyrimitate	0.09	118	96	94	109	104	11	0.36	101	105	104	97	102	3.8

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
81	Fensulfothion	1.0	101	101	99	106	102	2.8	4.0	108	108	108	97	105	5.3
82	Fluorochloridone	6.9	103	97	98	99	99	2.8	28	112	112	107	97	107	6.6
83	Butachlor	10	143	94	70	105	103	29	40	88	100	106	98	98	7.6
84	Kresoxim-methyl	50	135	85	80	97	99	25	201	95	99	119	83	99	15
85	Fenamiphos sulfoxide	0.37	106	109	93	102	103	7.1	1.5	104	113	93	97	102	8.9
86	Thenylchlor	12	116	95	92	106	102	11	48	97	103	104	93	99	5.1
87	Chlorphoxim	39	103	84	71	99	89	16	155	98	93	90	94	94	3.6
88	Fenamiphos sufon	0.22	110	100	95	105	102	6.5	0.88	105	104	116	99	106	6.9
89	Fenbuconazole	0.82	118	97	101	107	106	8.6	3.3	105	107	106	100	105	2.9
90	Phenothrin	170	119	89	62	78	87	27	678	70	72	75	109	82	23
91	Piperophos	4.6	136	112	113	112	118	9.8	18	106	112	91	97	101	8.9
92	Oxyfluorfen	29	92	94	92	100	95	4.2	117	97	89	93	86	91	5.0
93	Coumaphos	1.1	105	92	88	91	94	7.8	4.2	91	94	96	96	94	2.5
94	Flufenacet	2.7	111	95	81	104	98	13	11	99	103	108	105	104	3.5
95	Methoxyfenozide	1.9	119	94	92	105	103	12	7.4	99	105	109	100	103	4.2
96	Aspon	0.87	118	84	67	78	87	25	3.5	80	98	102	103	96	11
97	Ethion	1.5	114	91	78	79	91	19	5.9	93	84	96	95	92	5.9
98	Dithiopyr	5.2	145	96	80	88	102	28	21	87	95	87	95	91	5.1
99	Fenpyroximate	0.68	104	100	87	88	95	9.1	2.7	91	97	98	98	96	3.6
100	Thiabendazole	0.24	117	79	102	100	100	16	0.96	78	95	78	74	82	12
101	Metamitron	3.2	60	83	94	92	82	19	13	108	108	128	94	110	13
102	Isoproturon	0.07	108	117	106	110	110	4.2	0.28	95	99	98	92	96	3.5
103	Atraton	0.09	98	82	99	107	97	11	0.36	95	106	119	101	105	9.7
104	DMST	20	104	91	99	101	99	5.7	80	87	111	108	93	100	11
105	Cycloate	2.2	90	86	100	93	92	6.4	8.9	85	100	89	93	92	7.1
106	Atrazine	0.18	94	91	95	103	96	5.6	0.72	90	101	112	90	98	11
107	Butylate	151	82	112	93	126	103	19	604	85	97	73	134	97	27

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
108	Chloridazon	1.2	125	95	99	80	100	19	4.6	101	109	146	106	115	18
109	Sufallate	104	93	79	98	95	91	9.0	414	85	91	93	82	88	6.1
110	Terbumeton	0.05	99	87	107	99	98	8.5	0.2	85	102	109	94	98	11
111	Cyprazine	0.06	112	85	102	79	94	16	0.24	80	99	104	79	91	14
112	Tebuthiuron	0.11	101	86	98	102	97	7.9	0.44	81	107	102	92	96	12
113	Trietazine	0.3	98	87	105	96	97	7.3	1.2	93	106	97	89	96	7.4
114	Sebutylazine	0.16	96	93	97	97	96	2.1	0.64	86	109	111	94	100	12
115	Tebutam	0.07	97	86	107	102	98	9.4	0.28	98	90	99	93	95	4.8
116	Thionazin	11	99	88	100	104	98	7.1	45	91	105	98	96	98	6.1
117	Heptanophos	2.9	98	79	82	98	89	11	12	79	94	96	94	91	8.5
118	Prosulfocarb	0.18	90	82	106	86	91	11	0.72	89	102	99	79	92	11
119	Dipropetryn	0.14	93	84	105	98	95	9.3	0.56	81	103	102	92	95	11
120	Thiobencarb	1.7	95	86	94	99	93	5.9	6.6	86	106	103	87	96	11
121	Tri-iso-butyl phosphate	1.8	95	75	107	99	94	15	7.2	88	97	118	94	99	13
122	Tri-n-butyl-phosphate	0.19	95	75	107	99	94	15	0.76	88	97	118	94	99	13
123	Diethofencarb	1.0	99	90	101	90	95	5.9	4.0	105	82	115	89	98	16
124	Alachlor	3.7	95	80	96	96	92	8.9	15	85	92	112	87	94	13
125	Metazachlor	0.49	100	94	97	97	97	2.5	2.0	91	104	92	95	96	6.1
126	Simeconazole	1.5	97	88	109	100	98	8.9	5.9	96	103	108	91	100	7.7
127	Phorate sulfone	21	96	83	97	103	95	8.7	84	123	107	113	96	110	10
128	Mefenacet	1.1	101	95	112	98	102	7.5	4.4	102	108	92	93	99	7.4
129	Fenpropimorph	0.09	94	74	97	89	88	12	0.36	88	88	107	91	93	10
130	Tebuconazole	1.1	100	92	97	96	96	3.3	4.5	115	107	107	93	105	8.9
131	Isopropalin	15	81	94	101	95	93	9.2	60	80	94	98	73	86	14
132	Tebupirimfos	0.06	94	104	91	92	95	6.3	0.24	90	98	100	89	94	5.9
133	Phenthoate	46	97	86	94	93	93	5.1	185	86	96	105	92	95	8.4
134	Sulfotep	1.3	92	85	86	88	88	3.9	5.2	81	95	104	89	92	10

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
135	Sulprofos	2.9	87	87	79	63	79	15	12	87	111	97	63	89	23
136	EPN	17	93	91	100	80	91	9.4	66	84	113	96	81	93	15
137	Diniconazole	0.67	88	88	109	97	96	11	2.7	91	105	104	96	99	6.9
138	Pencycuron	0.14	91	92	104	91	95	7.0	0.56	84	91	93	84	88	5.3
139	Pyributicarb	0.17	95	94	99	87	94	5.5	0.68	92	107	101	81	95	12
140	Pyridaphenthion	0.44	96	90	71	94	88	13	1.8	142	104	84	92	106	24
141	Pirimiphos	0.08	81	90	117	96	96	16	0.32	84	103	124	87	100	19
142	Pyraclufos	0.5	98	81	110	90	95	13	2.0	84	101	118	103	101	14
143	Picoxystrobin	4.2	92	79	101	89	90	10	17	86	106	112	85	97	14
144	Tetraconazole	0.86	98	89	106	99	98	6.9	3.4	99	108	101	91	100	7.0
145	Mefenpyr-diethyl	6.3	95	85	98	89	92	6.4	25	80	90	111	84	91	15
146	Profenfos	1.0	93	88	93	98	93	4.1	4.0	85	88	97	91	90	5.8
147	Pyraclostrobin	0.25	99	102	103	98	101	2.7	1.0	94	101	93	93	95	4.0
148	Thiazopyr	0.98	92	81	111	89	93	14	3.9	82	108	100	86	94	13
149	Chlorfluazuron	4.3	81	85	77	62	76	13	17	78	113	64	70	81	27
150	Methomyl	4.8	103	88	86	150	107	28	19	81	119	92	77	92	20
151	Pyroquilon	1.7	103	75	82	124	96	23	7.0	87	86	91	69	83	12
152	Fuberidazole	0.95	76	81	96	111	91	18	3.8	83	106	94	60	86	23
153	Isocarbamid	0.85	109	84	84	110	97	15	3.4	93	101	98	75	92	13
154	Aminocarb	8.2	110	82	91	77	90	16	33	93	98	69	103	91	16
155	Dimethirimol	0.06	105	91	90	95	95	7.0	0.24	97	104	101	71	93	16
156	Imazapic	3.0	105	83	94	77	89	14	12	101	85	86	111	96	13
157	Uniconazole	1.2	104	90	109	158	115	26	4.8	101	109	106	65	95	21
158	Triallate	23	119	94	76	140	107	26	92	103	80	80	77	85	14
159	Quinoxiphen	77	115	88	91	142	109	23	307	84	102	97	78	90	12
160	Terbufos sulfone	44	115	91	125	128	115	15	177	82	108	102	77	92	17
161	Resmethrin	0.15	122	86	134	132	118	19	0.6	70	107	104	73	88	23

No.	Pesticide	Low spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)	High spike ( $\mu\text{g kg}^{-1}$ )	Shiitake	Black Fungus	Nameko	Enoki Mushroom	Ave. (%)	RSD (%)
162	Benzoylprop-ethyl	154	117	90	90	117	103	15	616	57	106	95	81	85	25
163	1-Naphthy acetamide	0.41	104	80	111	70	91	21	1.6	100	92	98	105	99	5.7
164	Atrazine-desethyl	0.31	107	92	86	88	93	10	1.2	107	88	97	110	101	10
165	2,6-Dichlorobenzamide	2.3	107	89	100	61	90	23	9.0	104	101	93	100	99	4.9
166	Aldicarb	131	92	91	102	69	88	16	522	115	60	94	105	93	26
167	Simeton	0.55	106	89	108	71	94	18	2.2	101	92	99	109	100	7.1
168	Acibenzolar-S-methyl	1.5	105	81	100	89	94	12	6.2	69	84	120	108	95	24
169	Methabenzthiazuron	0.04	111	83	109	69	93	22	0.16	104	94	93	114	101	9.6
170	Demeton-S-methyl sulfoxide	2.0	93	53	64	72	70	24	7.8	84	72	73	75	76	7.3
171	Phosfolan	0.24	121	73	101	79	93	23	0.96	93	89	92	104	94	6.9
172	Fenthion oxon	0.59	112	77	94	63	86	24	2.4	101	89	90	116	99	13
173	Fenitrothion	13	102	92	104	92	98	6.5	54	103	93	98	136	107	18
174	Phthalic acid, dibutyl ester	20	101	98	98	92	97	3.7	79	105	98	88	114	101	11
175	Metolachlor	0.2	112	93	104	74	96	17	0.8	110	79	101	130	105	20
176	Procymidone	43	109	90	100	77	94	14	173	103	93	102	135	108	17
177	Vamidothion	2.3	97	66	102	64	82	24	9.1	97	80	99	107	96	12
178	Cumyluron	0.66	117	81	102	72	93	22	2.6	110	95	90	126	105	16
179	Pyrethrin	18	103	88	76	88	88	13	72	119	88	94	102	101	13
180	Phthalic acid, bicyclohexyl ester	0.34	102	82	93	86	91	9.6	1.4	106	85	83	131	101	22
181	Carpropamid	2.6	106	86	102	71	91	17	10	108	99	97	138	110	17
182	Tebufenozide	14	110	79	103	67	90	23	56	108	89	97	123	104	14
183	Chlorthiophos	16	90	86	93	79	87	6.9	64	106	88	83	107	96	13
184	Imibenconazole	5.1	107	86	62	72	82	24	21	120	101	99	152	118	21
185	Propaquiafop	0.62	101	83	101	75	90	15	2.5	94	93	80	149	104	29
186	Lactofen	31	105	94	114	68	95	21	124	100	87	92	107	96	9.0
187	Propisochlor	0.4	98	92	107	71	92	16	1.6	111	99	101	100	103	5.5

**Table 5 Results of uncertainty for shiitake, black fungus, nameko, enoki mushroom in low and high levels (%)**

Samples	Fortified level	Range	Mean	Expanded uncertainty
Shiitake	Low	0.74-16	5.7	11
	High	0.44-14	3.7	7.5
Black Fungus	Low	0.63-15	4.8	9.6
	High	0.50-11	3.9	7.7
Nameko	Low	0.54-19	4.2	8.3
	High	0.36-11	3.6	7.3
Enoki Mushroom	Low	1.1-15	5.7	11
	High	0.46-21	6.8	14