
Supplementary Information

Application of the QuEChERS method combined with UHPLC-QqQ-MS/MS for the determination of isoprocarb and carbaryl pesticides in Indonesian coffee

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SEMPROT SEMUT: Petani kopi melakukan penyemprotan semut hitam sebelum melakukan pemanenan kopi di lahan miliknya di Dusun Kluwung Desa Kemiriombo Kecamatan Gemawang, Temanggung, kemarin. (suaramerdeka.com/M Abdul Rohman)

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28 Fig. S1. Photo of the farmer spraying insecticides on coffee plants before harvesting

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41 Table S1 The MRM parameter of pesticide tested in LC-MS/MS

Pesticide	Precursor ion	Quantifier ion	Qualifier ion
(Monceren) Penycuron	329.1	125.0	218.1
3-Hydroxycarbofuran	238.1	163	181
Acephate	184.1	143	49
Acetamiprid	223	126	99
Acetochlor	270.1	59.2	148.2
Acibenzolar-S-methyl	211	136.2	91.2
Alachlor	270	238	162
Aldicarb	208.1	116	89
Aldicarb sulfone	240.1	86.2	148.2
Aldicarb sulfoxide	207.1	132.1	89.1
Ametryn	228.1	186.1	96
Aminocarb	209.1	137.1	152
Amitraz	294.2	148.3	91.2
Anilofos	368	198.9	124.9
Atrazine	216.1	174.1	104.1
Azinophos ethyl	318	132	160.2
Azoxystrobin	404.1	372.1	344.1
Benalaxyl	326.2	294.1	148.1
Bendiocarb	224.1	167.1	109
Bentazone	241.0	199.0	107.0
Benzoximate	364	199	105
Bifenazate	301.1	170.1	198.1
Bitertanol	338.2	269.2	70
Boscalid	343	307	140
Bromacil	261	205	188
Bromucanazole Isomer 1	378	159	70
Bromucanazole Isomer 2	378.001	159	70
Bupirimate	317	166.1	108
Buprofezin	306.2	201.1	116.2
Butafenacil	492.1	331	349
Butocarboxim	213.1	75.1	116
Butoxycarboxim	223.1	106	166
Carbaryl	202.1	145	127
Carbendazim	192.2	160.2	132.1
Carbetamide	237.1	192	118.1
Carbofuran	222.1	165.1	123
Carbosulfan	381	118	160
Carboxin	236.1	143	87
Carfentrazone-ethyl	412	346	366
Chlorantraniliprole	484.0	452.9	285.9
Chlorfluazuron	540	383	158
Chlorotoluron	213.1	72.2	46.2

Chloroxuron	291.1	72.4	218.1
Chlorpyrifos	350	97	198
Chlorpyrifos-methyl	321.9	125.1	289.9
Clethodim Isomer 1	360.1	164	268.1
Clethodim Isomer 2	360.101	164	268.1
Clofentezine	303	138	102
Clothianidin	250	169	132
Cyanazine	241	214	104
Cyazofamid	325.2	108	261.2
Cycloxydim	326.1	280.1	180.0
Cycluron	199.1	89.1	89
Cymoxanil	198.9	128.2	111.2
Cyproconazole Isomer 1	292	70	125
Cyproconazole Isomer 2	292.001	70	125
Cyprodinil	226	93	77
Cyromazine	167.1	85.1	125.1
Desmedipham	318.1	182	154
Diazinon	305	169	97
Dichlorvos	221	109	127
Diclobutrazol	328.2	70.2	59.1
Diclotophos	238.1	193	112.1
Diethofencarb	268.1	226.1	124
Difenoconazole Isomer 1	408.2	253.1	251.1
Difenoconazole Isomer 2	408.202	253.1	251.1
Diflubenzuron	311	158.2	141.1
Dimethoate	230	199	125
Dimethomorph Isomer 1	388.1	301	165.1
Dimethomorph Isomer 2	388.101	301	165.1
Dimoxystrobin	327.1	116	205
Diniconazole	326.2	70.2	159
Dinotefuran	203.1	129.2	157.2
Dioxacarb	224.1	167	123
Diuron	233.1	72	72.1
Emamectin-benzoate b1a	886.5	158.1	82.1
Emamectin-benzoate b1b	872.6	158.2	302.3
Epoxiconazole	330	121.1	101.1
Etaconazole Isomer 1	328.1	159	205
Etaconazole Isomer 2	328.101	159	205
Ethiofencarb	226.1	107.2	164
Ethion	385	199	171
Ethiprole	397.3	350.9	255.2
Ethirimol	210.2	140.1	98.1
Ethofumesate	287.1	259.1	121.1
Etoxazole	360.1	141	57.2
Famoxadone	392	331	238
Fenamidone	312.1	92	236.1

Fenarimol	331	268	81
Fenazaquin	307.1	161.1	147
Fenbuconazole	337	124.9	70
Fenhexamid	302	97	55
Fenitrothion	278.1	125	108.9
Fenobucarb	208.2	95.3	152.1
Fenoxycarb	302.1	116.1	88
Fenpropathrin	350	125	97
Fenpropimorph	304	147	117
Fenpyroximate	422	366.1	135.1
Fenthion	279	169	247
Fenuron	165.1	72.1	46
Fipronil	437.1	368	290
Flonicamid	230.1	203.1	174.0
Flubendiamide	683.1	408	274.1
Flufenacet	364.1	152.1	194.2
Flufenoxuron	489	158	141.1
Fluometuron	233.1	72.1	46
Fluoxastrobin	459.2	427.2	188
Fluquinconazole	376	307	349
Flusilazole	316.1	165.1	247.1
Flutolanil	324.1	242.1	262.1
Flutriafol	302.1	70.1	123
Forchlorfenuron	248	129.1	93.1
Formetanate HCl	222.1	165	120
Fuberidazole	185	157	65
Furalaxyl	302.1	242.1	95
Furathiocarb	383.1	195.1	252.1
Halofenozide	331.2	105.0	275.1
Hexaconazole	314.1	70	159
Hexaflumuron	461.1	158.2	141.1
Hexythiazox	353.1	168	228
Hydramethylnon	495.2	323.2	151.1
Imazalil	297	159	201
Imazapic	276.1	231.1	86
Imazaquin	312.1	199.1	128.1
Imidacloprid	256	209.1	175.1
Indoxacarb	528	203	218
Ipconazole Isomer 1	334.2	70	125
Ipconazole Isomer 2	334.201	70	125
Iprodione	330	101	143
Iprovalicarb Isomer 1	321.2	119	203.1
Iprovalicarb Isomer 2	321.201	119	203.1
Isazophos	314	120	162
Isoprocab	194.1	95	137
Isoprothiolane	291.0	231.1	189

Isoproturon	207.2	72.1	46.1
Kresoxim-methyl	314.2	116.1	131.2
Linuron	249.1	182.1	160
Lufenuron	511.1	158.1	141.2
Malathion	331	127	99
Mandipropamid	412.1	328.1	356.1
MCPA	318	227	101
Mefenacet	299	148.1	120.1
Mepanipyrim	224	106	77
Mepronil	270.1	119.1	228
Mesotrione	340.2	228.2	104.1
Metaflumizone	507.1	178.1	287.1
Metalaxyl	280.1	220.2	192.2
Metamifop	441.1	288	180.2
Metconazole	320.1	70	125
Methabenzthiazuron	222.1	165.2	150.3
Methamidophos	142	94	125
Methidathion	303	145	85
Methiocarb	226.1	169.1	121.1
Methomyl	163.1	106	88.1
Methoprotryne	272.2	198	240.2
Methoxyfenozone	369.1	313.2	149.1
Metobromuron	259	170.2	148.2
Metolachlor	284.1	252.0	176.1
Metribuzin	215.1	187.1	84.1
Metsulfuron Methyl	382	167	199
Mevinphos Isomer 1	225.1	127.1	193.2
Mevinphos Isomer 2	225.101	127.1	193.2
Mevinphos Isomer 3	225.102	127.1	193.2
Mexacarbate	223.2	166.1	151
Monocrotophos	224.1	127.1	98
Monolinuron	215.1	126.1	99
Myclobutanil	289	70	125
Neburon	275	88	114
Nitenpyram	271	225.2	126
Novaluron	493	158.1	141.1
Nuarimol	315	252.1	81
Omethoate	214	182.8	124.9
Oxadixyl	279.1	219.1	132.1
Oxamyl	237.1	72.1	90.1
Pacllobutrazol	294	70	125
Penconazole	284.1	70	159
Pendimethalin	282	212	194
Phenmedipham	301.2	168	107.9
Phosmet	318	160	133
Phosphamidon	300	127	174

Picoxystrobin	368	145	205
Piperonyl butoxide	356.2	177.2	119.1
Pirimicarb	239.2	72.1	182.1
Pirimiphos methyl	306	164	108
Prochloraz	376	308	70
Profenofos	373	303	97
Promecarb	208.1	151	109
Prometon	226.1	142	86
Prometryne	242.2	158.1	200.1
Propamocarb	189.2	102	144
Propargite	368.2	231.1	175.1
Propazine	230.1	146	188
Propham	180.1	138	120
Propiconazole Isomer 1	342.1	159	69
Propiconazole Isomer 2	342.101	159	69
Propoxur.1	210.1	111	168.1
Propyzamide	256	190	173
Prothioconazole	344.1	188.9	125.1
Pymetrozine	218	105	78
Pyracarbolid	218.1	125	97
Pyraclostrobin	388	194	163
Pyridaben	365	147	309
Pyrimethanil	200	107	82
Pyriproxyfen	322	96	185
Quinoxifen	308.1	197.1	162.1
Rotenone	395.1	213.1	192.1
Secbumeton	226.2	170.1	100
Siduron	233.3	137.2	94
Simazine	202	132	124
Simetryn	214	124	144
Spinetoram	748.5	142.2	98.1
Spinosad (Spinosyn A)	732.5	142.2	98.1
Spinosad (Spinosyn D)	746.8	142.4	98.3
Spirodiclofen	411.3	71.3	313.3
Spiromesifen	371.2	273.2	255.2
Spirotetramat	374.2	330.2	302.2
Spiroxamine Isomer 1	298.2	144.2	100.1
Spiroxamine Isomer 2	298.201	144.2	100.1
Sulfentrazone	387	307.1	146
Tebuconazole	308.2	70	125
Tebufenozide	353.2	133	297.2
Tebufenpyrad	334	145	117
Tebuthiuron	229.1	172.4	116.1
Teflubenzuron	381.1	141.2	158.2
Temephos	467	419.1	405
Terbumeton	226.1	170.1	100

Terbutryn	242.1	186.1	68.1
Tetraconazole	372.1	159	70
Thiabendazole	202.1	175.1	131.2
Thiacloprid	253	126	99
Thiamethoxam	292	211	181
Thidiazuron	221.1	102.1	127.9
Thiobencarb	258	125	89
Thiodicarb	355	88	108
Thiofanox	219.2	57.2	61.1
Thiophanate-methyl	343	151.1	311
Tolclofos methyl	301	175	269
Triadimefon	294	197.1	225
Triadimenol	296.1	70	227.1
Trichlorfon	256.9	109.1	127
Tricyclazole	190	163	136
Trifloxystrobin	409	186	206
Triflumizole	346.1	278.1	73
Triflumuron	359.1	156.2	139
Triticonazole	318.1	70	125
Vamidotion	288	118	146
Zoxamide	336.1	187	159

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44 Table S2 The operational parameter in GC-MS/MS

Instrument	GCMS-TQ8050
Inlet	240°C
Column	Splitless injection, sampling time 1 min Elite-5MS, 30 m x 0.25 mm x 0.25 µm Helium carrier gas Linear velocity constant 60.1 cm/sec
Oven	70°C, hold 2 min 25°C/min to 280°C, hold 10 min
Ion Source	250°C
Operation Mode	Electron ionization (EI) mode, 70 eV Multiple Reaction Monitoring (MRM) Argon gas, 200 kPa

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50 Table S3 The MRM parameter of pesticide tested in GC-MS/MS

Pesticide	Quantitative transition	Qualitative transition
2,3,5,6-Tetrachloroaniline	228.90>158.00	230.90>158.00
2,4'-Methoxychlor	227.10>121.10	121.10>78.00
2-Phenylphenol	170.10>141.10	141.10>115.10
3,4-Dichloroaniline	161.00>99.00	161.00>90.00
4,4'-Dichlorobenzophenone	139.00>111.00	139.00>75.00
4,4'-methoxychlor olefin	238.10>223.10	308.00>238.10
Acetochlor	174.10>146.10	223.10>132.10
Acrinathrin-1	181.10>152.10	181.10>127.10
Acrinathrin-2	181.10>152.10	289.10>93.00
Aldrin	262.90>193.00	292.90>219.90
Allethrin-3,4 (Bioallethrin)	123.10>81.10	136.10>93.10
Allidochlor	132.10>56.00	138.10>96.00
alpha-Endosulfan	194.90>160.00	194.90>125.00
Anthraquinone	208.10>180.10	208.10>152.10
Atrazine	200.10>104.10	215.10>173.10
Benfluralin	292.10>264.00	292.10>160.00
BHC-alpha	180.90>144.90	218.90>182.90
BHC-beta	180.90>144.90	218.90>182.90
BHC-delta	180.90>144.90	218.90>182.90
BHC-gamma	180.90>144.90	218.90>182.90
Bifenthrin	181.10>166.10	181.10>179.10
Biphenyl	154.10>128.10	154.10>115.10
Bromfenvinphos	266.90>159.00	268.90>161.00
Bromophos	330.90>315.90	328.90>313.90
Bromophos-ethyl	358.90>302.90	302.90>284.90
Bromopropylate	340.90>182.90	340.90>184.90
Bupirimate	273.10>108.10	273.10>193.10
Captafol	79.00>77.00	79.00>51.00
Captan	149.10>105.10	149.10>79.10
Carbophenothion	157.00>45.00	341.90>157.00
Carfentrazone-ethyl	340.10>312.10	312.10>151.10
Chlorbenside	125.00>89.00	125.00>99.00
cis-Chlordane	374.80>265.90	372.80>263.90
trans-Chlordane	374.80>265.90	372.80>263.90
Chlorfenapyr	247.10>227.00	247.10>200.00
Chlorfenson	175.00>111.00	175.00>75.00
(E)-Chlorfenvinphos	267.00>159.00	323.00>267.00
(Z)-Chlorfenvinphos	267.00>159.00	323.00>267.00
Chlorobenzilate	139.00>111.00	251.00>139.00
Chloroneb	206.00>191.00	206.00>141.00
Chlorothalonil	263.90>168.00	265.90>168.00
Chlorpropham	127.10>65.00	127.10>92.00

Chlorpyrifos	196.90>168.90	313.90>257.90
Chlorpyrifos-methyl	285.90>93.00	287.90>93.00
Chlorthal-dimethyl	298.90>220.90	300.90>222.90
Chlozolinate	258.90>188.00	330.90>258.90
Clomazone	204.10>107.00	204.10>78.00
Coumaphos	362.00>109.00	362.00>226.00
Cycloate	154.20>83.10	154.20>55.00
Cyfluthrin-1	163.10>127.10	163.10>91.00
Cyfluthrin-2	163.10>127.10	163.10>91.00
Cyfluthrin-3	163.10>127.10	163.10>91.00
Cyfluthrin-4	163.10>127.10	163.10>91.00
Cypermethrin-1	181.10>152.10	163.10>127.10
Cypermethrin-2	163.10>127.10	163.10>91.00
Cypermethrin-3	163.10>127.10	163.10>91.00
Cypermethrin-4	163.10>127.10	163.10>91.00
Cyprodinil	224.10>208.10	224.10>197.10
o,p'-DDD	235.00>165.00	237.00>165.00
o,p'-DDE	246.00>176.00	248.00>176.00
p,p'-DDE	246.00>176.00	317.90>248.00
p,p'-DDT	235.00>165.00	237.00>165.00
Deltamethrin-1	180.90>151.90	252.90>93.00
Deltamethrin-2	180.90>151.90	252.90>93.00
Diazinon	179.10>122.10	179.10>137.10
Dichlofluanid	223.90>123.10	167.10>124.10
Dicloran	206.00>176.00	176.00>148.00
Dieldrin	262.90>193.00	276.90>241.00
Dimethachlor	197.10>148.10	197.10>120.10
Diphenamid	167.10>152.10	239.10>167.10
Diphenylamine	167.10>139.10	169.10>66.00
Disulfoton	153.00>97.00	153.00>125.00
Endosulfan-beta	194.90>160.00	194.90>125.00
Endosulfan ether	240.90>205.90	238.90>203.90
Endosulfan sulfate	271.80>236.90	386.80>288.80
Endrin	262.90>191.00	262.90>193.00
Endrin aldehyde	249.80>214.90	344.90>244.90
Endrin ketone	316.90>244.90	314.90>242.90
EPN	169.10>140.90	156.90>77.00
Ethalfuralin	276.00>202.00	316.10>276.00
Ethion	230.90>129.00	153.00>97.00
Etofenprox	163.10>135.10	163.10>107.10
Fenamiphos	303.10>195.10	288.10>260.10
Fenarimol	251.00>139.00	251.00>111.00
Fenchlorphos	284.90>269.90	286.90>271.90
Fenitrothion	277.00>260.00	277.00>109.10
Fenpropathrin	181.10>152.10	265.10>210.10
Fenson	141.00>77.00	267.90>141.00

Fenthion	278.00>109.00	278.00>169.00
Fenvalerate-1	225.10>119.10	225.10>147.10
Fenvalerate-2 (Esfenvalerate)	225.10>119.10	225.10>147.10
Fipronil	366.90>212.90	368.90>214.90
Fluazifop-P-butyl	282.10>238.10	282.10>91.00
Fluchloralin	306.00>264.00	326.00>63.00
Flucythrinate-1	157.10>107.10	199.10>157.10
Flucythrinate-2	199.10>157.10	157.10>107.10
Fludioxonil	248.00>127.00	248.00>154.00
Fluquinconazole	340.00>298.00	340.00>313.00
Fluridone	328.10>259.00	328.10>313.00
Flusilazole	233.10>165.10	233.10>152.10
Flutolanil	173.00>145.00	173.00>95.00
Flutriafol	219.10>123.10	219.10>95.00
Fonofos	137.10>109.10	246.00>137.10
Heptachlor	271.80>236.90	273.80>238.90
Heptachlor-exo-epoxide	352.80>262.90	354.80>264.90
Hexachlorobenzene	283.80>213.80	283.80>248.80
Hexazinone	171.10>71.00	171.10>85.00
Isodrin	192.90>157.00	192.90>123.00
Isopropalin	280.10>238.10	280.10>133.10
lambda-Cyhalothrin	181.10>152.10	163.10>91.00
Lenacil	153.10>136.10	153.10>82.10
Leptophos	376.90>361.90	374.90>359.90
Linuron	248.00>61.00	250.00>61.00
Malathion	173.10>99.00	158.10>125.00
Metalaxyl	206.10>132.10	249.20>190.10
Metazachlor	209.10>132.10	133.10>117.10
Methacrifos	208.00>180.00	208.00>110.00
Methoxychlor	227.10>169.10	227.10>141.10
Metolachlor (S-Metolachlor)	162.10>133.10	238.10>162.10
Mevinphos-1	127.00>109.00	192.00>127.00
Mevinphos-2	127.00>109.00	192.00>127.00
MGK 264-1	111.10>82.00	164.10>93.00
MGK 264-2	164.10>98.00	111.10>82.00
Mirex	271.80>236.80	273.80>238.80
Myclobutanil	179.10>125.00	179.10>152.00
N-(2,4-dimethylphenyl) formamide	149.10>121.10	149.10>106.10
cis-Nonachlor	406.80>299.90	406.80>109.00
trans-Nonachlor	406.80>299.90	406.80>334.90
Nitralin	316.10>274.00	274.00>169.00
Nitrofen	202.00>139.00	282.90>253.00
Norflurazon	145.00>95.00	303.00>145.00
Oxadiazon	258.00>175.00	302.00>175.00
Oxyfluorfen	252.00>196.00	361.00>300.00
Paclobutrazol	236.10>125.00	236.10>167.00

Parathion	139.00>109.00	291.10>109.00
Parathion-methyl	125.00>47.00	125.00>79.00
Pebulate	128.10>57.00	128.10>72.00
Penconazole	248.10>157.10	159.10>123.10
Pendimethalin	252.10>162.10	252.10>191.10
Pentachloroaniline	262.90>191.90	264.90>193.90
Pentachloroanisole	264.80>236.80	279.90>236.80
Pentachlorobenzene	249.90>214.90	249.90>178.90
Pentachlorobenzonitrile	274.80>239.80	272.80>202.90
Pentachlorothioanisole	295.80>262.90	295.80>245.80
Permethrin-1	183.10>153.10	183.10>168.10
Permethrin-2	183.10>153.10	183.10>168.10
Phenothrin-1	123.10>81.00	183.10>153.10
Phenothrin-2	123.10>81.00	183.10>153.10
Phorate	231.00>129.00	231.00>175.00
Phosalone	182.00>111.00	182.00>138.00
Phosmet	160.00>77.00	160.00>133.00
Piperonyl butoxide	176.10>131.10	176.10>103.10
Pirimiphos ethyl	304.10>168.10	318.10>166.10
Pirimiphos-methyl	290.10>125.00	290.10>233.10
Pretilachlor	262.10>202.10	238.10>162.10
Prochloraz	180.10>138.10	180.10>69.00
Procymidone	283.00>96.00	285.00>96.00
Prodiamine	321.10>279.10	321.10>203.10
Profluralin	318.10>199.10	318.10>55.00
Propachlor	120.00>77.00	120.00>92.00
Propanil	160.90>99.00	160.90>90.00
Propargite-1	135.10>107.10	135.10>77.00
Propargite-2	135.10>107.10	135.10>77.00
Propisochlor	162.10>120.10	162.10>147.10
Propyzamide	172.90>144.90	172.90>109.00
Prothiofos	266.90>238.90	309.00>238.90
Pyralofos	194.00>138.00	360.10>194.00
Pyrazophos	221.10>193.10	221.10>149.10
Pyridaben	147.10>117.10	147.10>132.10
Pyridaphenthion	340.00>199.10	199.10>92.00
Pyrimethanil	198.10>183.10	198.10>118.10
Pyriproxyfen	136.10>78.00	136.10>96.00
Quinalphos	146.10>118.00	146.10>91.00
Resmethrin-1	143.10>128.10	171.10>128.10
Resmethrin-2 (Bioresmethrin)	143.10>128.10	171.10>143.10
Sulfotep	322.00>202.00	322.00>174.00
Sulprofos	156.00>141.00	156.00>108.00
tau-Fluvalinate-1	250.10>55.00	250.10>200.10
tau-Fluvalinate-2	250.10>55.00	250.10>200.10
Tebuconazole	125.10>89.00	250.10>125.10

Tebufenpyrad	333.10>171.10	333.10>276.10
Tecnazene	260.90>202.90	202.90>142.90
Tefluthrin	177.00>127.10	177.00>137.10
Terbacil	161.00>144.00	161.00>88.00
Terbufos	231.00>128.90	231.00>174.90
Tetrachlorvinphos	328.90>109.00	330.90>109.00
Tetradifon	226.90>199.00	355.90>228.90
Tetramethrin-1	164.10>107.10	164.10>77.00
Tetramethrin-2	164.10>107.10	164.10>77.00
THPI (Tetrahydrophthalimide)	151.10>79.00	151.10>123.10
Tolclofos-methyl	264.90>249.90	264.90>219.90
Tolyfluanid	238.00>137.10	181.10>138.10
Transfluthrin	163.10>143.10	163.10>127.10
Triadimefon	208.10>181.00	208.10>127.00
Triadimenol-1	168.10>70.00	128.10>65.00
Triadimenol-2	168.10>70.00	128.10>65.00
Triazophos	161.00>134.00	161.00>106.00
Tricyclazole	189.00>161.90	189.00>135.00
Triflumizole	206.10>179.10	278.10>73.00
Trifluralin	306.10>264.10	264.10>160.10

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53 Table S4 Validation data and uncertainty estimation of isoprocarb and carbaryl in roasted and

54 brewed coffee

Pesticide	Roasted coffee					Brewed coffee				
	Linear range	LOQ (mg/kg)	Level 0.001 mg/kg			Linear range (mg/L)	LOQ (mg/L)	Level 0.0001 mg/L		
			Average Recovery (%)	RSD _r (%)	U' (%)			Average Recovery (%)	RSD _r (%)	U' (%)
Isoprocarb	0.001 – 0.100	0.001	78.3	17.1	37	0.0001 – 0.0050	0.0001	117.2	16.4	39
Carbaryl	0.001 – 0.100	0.001	109.8	9.6	36	0.0001 – 0.0050	0.0001	108.9	13.2	32

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63 Table S5 Occurrence of pesticides in surveyed coffee samples from 3 coffee-producing areas
64 of Indonesia

Pesticide detected in the samples	Aceh province (Arabica coffee)			East Java province (Robusta coffee)			Lampung province (Robusta coffee)		
	n	No. of Positive sample	No. of positive samples > 0.01 mg/kg	n	No. of Positive sample	No. of positive samples > 0.01 mg/kg	n	No. of Positive sample	No. of positive samples > 0.01 mg/kg
Carbaryl	14	–	–	31	–	–	35	5	1
Isoprocarb		–	–		–	–		12	3

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66 n = number of samples

67 Pesticide analyzed from the sample: (E)-Chlorfenvinphos, (Monceren) Pencycuron, (Z)-Chlorfenvinphos, 2,3,5,6-Tetrachloroaniline, 2,4'-
68 Methoxychlor, 2-Phenylphenol, 3,4-Dichloroaniline, 3-Hydroxycarbofuran, 4,4'-Dichlorobenzophenone, 4,4'-methoxychlor olefin, Acephate,
69 Acetamiprid, Acetochlor, Acibenzolar-S-methyl, Acrinathrin, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Allidochlor, alpha-
70 BHC, alpha-Endosulfan, Ametryn, Aminocarb, Amitraz, Anthraquinone, Atrazine, Azoxystrobin, Benalaxyl, Bendiocarb, Benfluralin,
71 Benzoximate, beta-BHC, beta-Endosulfan, Bifenazate, Bifenthrin, Biphenyl, Bitertanol, Boscalid, Bromfenvinphos, Bromophos, Bromophos-
72 ethyl, Bromopropylate, Bromucanazole, Bupirimate, Buprofezin, Butafenacil, Butocarboxim, Butoxycarboxim, Carbaryl, Carbendazim,
73 Carbetamide, Carbofuran, Carbophenothion, Carboxin, Carfentrazone-ethyl, Chlorantraniliprole, Chlorbenside, Chlorfenapyr, Chlorfenson,
74 Chlorflauzuron, Chlorobenzilate, Chloroneb, Chlorothalonil, Chlorotoluron, Chloroxuron, Chlorpropham, Chlorpyrifos, Chlorpyrifos-methyl,
75 Chlorthal-dimethyl, Chlozolinat, cis-Chlordane, cis-Nonachlor, Clethodim Isomer, Clofentezine, Clomazone, Clothianidin, Coumaphos,
76 Cyazofamid, Cycloate, Cycluron, Cyfluthrin, Cymoxanil, Cypermethrin, Cyproconazole, Cyprodinil, Cyromazine, delta-BHC, Deltamethrin
77 (Tralomethrin deg.), Desmedipham, Diazinon, Dichlofluanid, Diclobutrazol, Dieloran, Dicrotophos, Dieldrin, Diethofencarb, Difenconazole
78 , Diflubenzuron, Dimethachlor, Dimethoate, Dimethomorph, Dimoxystrobin, Diniconazole, Dinotefuran, Dioxacarb, Diphenamid,
79 Diphenylamine, Disulfoton, Diuron, Emamectin-benzoate, Endosulfan ether, Endosulfan sulfate, Endrin, Endrin aldehyde, Endrin ketone,
80 EPN, Epoxiconazole, Etaconazole, Ethalfluralin, Ethiofencarb, Ethion, Ethiprole, Ethirimol, Ethofumesate, Etofenprox, Etoxazole,
81 Famoxadone, Fenamidone, Fenamiphos, Fenarimol, Fenazaquin, Fenbuconazole, Fenchlorphos, Fenhexamid, Fenitrothion, Fenobucarb,
82 Fenoxycarb, Fenpropathrin, Fenpropimorph, Fenpyroximate, Fenson, Fenthion, Fenuron, Fenvalerate, Fipronil, Flonicamid, Fluazifop-P-
83 butyl, Flubendiamide, Fluchloralin, Flucythrinate, Fludioxonil, Flufenacet, Flufenoxuron, Fluometuron, Fluoxastrobin, Fluquinconazole,
84 Fluquinconazole, Flusilazole, Flutolanil, Flutriafol, Fonofos, Forchlorfenuron, Formetanate HCl, Fuberidazole, Furalaxyl, Furathiocarb,
85 gamma-BHC (Lindane), Halofenozide, Heptachlor, Heptachlor-exo-epoxide, Hexachlorobenzene, Hexaconazole, Hexaflumuron,
86 Hexazinone, Hexythiazox, Hydramethylon, Imazalil, Imidacloprid, Indoxacarb, Iponazole , Iprovalicarb, Isodrin, Isoprocarb, Isopropalin,
87 Isoproturon, Kresoxim-methyl, lambda-Cyhalothrin, Lenacil, Leptophos, Linuron, Lufenuron, Malathion, Mandipropamid, Mefenacet,
88 Mepanipyrim, Mepronil, Mesotrione, Metaflumizone, Metalaxyl, Metazachlor, Metconazole, Methabenzthiazuron, Methacrifos,
89 Methamidophos, Methiocarb, Methomyl, Methoprotrotrine, Methoxychlor, Methoxyfenozide, Metobromuron, Metolachlor (S-Metolachlor),
90 Metribuzin, Mevinphos, Mevinphos , Mexacarbate, MGK 264, Mirex, Monocrotophos, Monolinuron, Myclobutanil, Neburon, Nitenpyram,
91 Nitralin, Nitrofen, Norflurazon, Novaluron, Nuarimol, o,p'-DDD, o,p'-DDE, Omethoate, Oxadiazon, Oxadixyl, Oxamyl, Oxyfluorfen, p,p'-
92 DDE, p,p'-DDT, Paclbutrazol, Parathion, Parathion-methyl, Pebulate, Penconazole, Pendimethalin, Pentachloroaniline, Pentachloroanisole,
93 Pentachlorobenzene, Pentachlorobenzonitrile, Pentachlorothioanisole, Permethrin, Phenmedipham, Phenothrin, Phorate, Phosalone, Phosmet,
94 Picoxystrobin, Piperonyl butoxide, Pirimicarb, Pirimiphos ethyl, Pirimiphos-methyl, Pretilachlor, Prochloraz, Procymidone, Prodiamine,
95 Profluralin, Promecarb, Prometon, Prometryne, Propachlor, Propamocarb, Propanil, Propargite, Propham, Propiconazole, Propisochlor,
96 Propoxur, Propyzamide, Prothioconazole, Prothiofos, Pymetrozine, Pyracarbolid, Pyraclofos, Pyraclostrobin, Pyrazophos, Pyridaben,
97 Pyridaphenthion, Pyrimethanil, Pyriproxyfen, Pyriproxyfen, Quinalphos, Quinoxifen, Resmethrin, Rotenone, Sebumeton, Siduron,
98 Simetryn, Spinetoram, Spinosad (Spinosyn D), Spirodiclofen, Spirotetramat, Spiroxamine , Sulfentrazone, Sulfotep, Sulprofos, tau-
99 Fluvalinate, Tebuconazole, Tebufenozide, Tebufenpyrad, Tebuthiuron, Tecnazene, Teflubenzuron, Tefluthrin, Temephos, Terbacil, Terbufos,
100 Terbumeton, Terbutryn, Tetrachlorvinphos, Tetraconazole, Tetradifon, Tetramethrin, Thiabendazole, Thiocloprid, Thiamethoxam,
101 Thidiazuron, Thiobencarb, Thiofanox, Thiophanate-methyl, THPI (Tetrahydrophthalimide), Tolclofos-methyl, Tolyfluanid, trans-Chlordane,
102 Transfluthrin, trans-Nonachlor, Triadimefon, Triadimenol, Triazophos, Trichlorfon, Tricyclazole, Trifloxystrobin, Triflumizole, Triflumuron,
103 Trifluralin, Triticonazole, Vamidothion, Zoxamide.

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