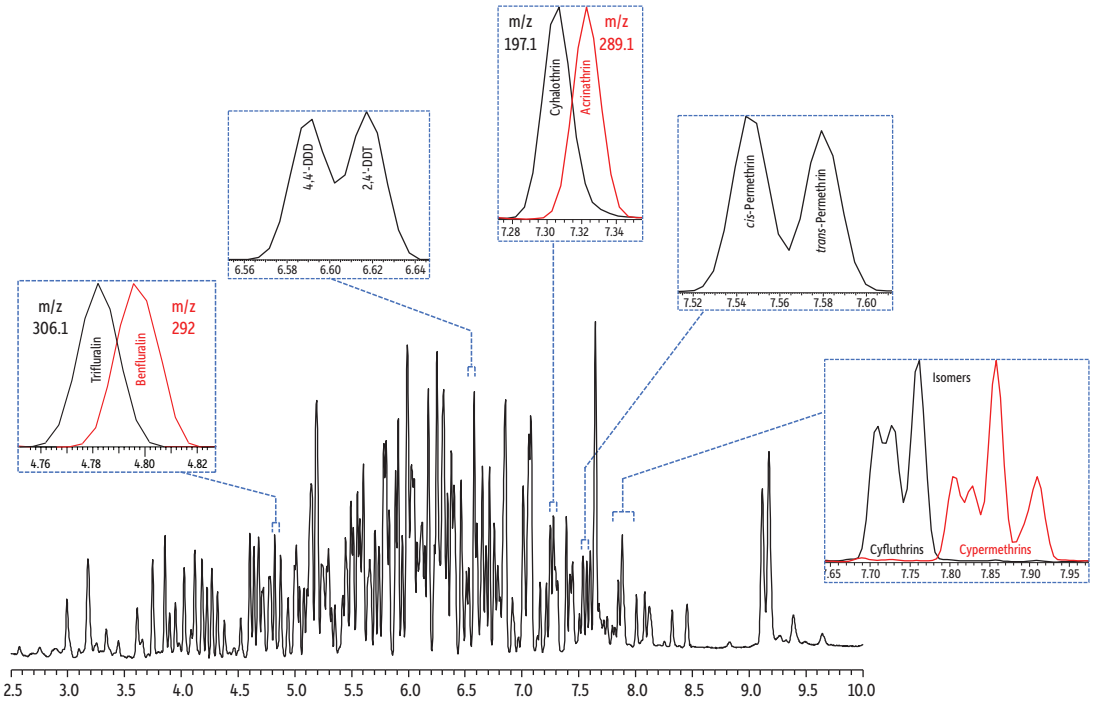
200+ Pesticides in Strawberry on Low-Pressure GC Column Kit



GC_FS0572

Peaks	tR (min)	Precursor Ion	Product Ion	Collision Energy	Confirmation Precursor Ion	Confirmation Product Ion	Collision Energy
1. Allidochlor	3.37	138	81	8	132	56	6
2. Dichlobenil	3.63	171	100	25	136	100.1	10
3. Biphenyl	3.75	154.1	115	25	152.1	126.1	23
4. Mevinphos	3.88	192	127.1	10	127.1	95	16
5. 3,4-Dichloroaniline	3.92	163	90	16	161	126.1	8
6. Pebulate	4.01	203	128	8	128	57	8
7. Etridiazole	4.02	211	139.9	22	182.8	139.9	16
8. N-(2,4-Dimethylphenyl) formamide	4.10	121	106	8	120	77	15
9. Tetrahydrophthalimide	4.10	151.1	80.1	6	151.1	122	10
10. Methacrifos	4.19	240	180	10	125	79	6
11. Chloroneb	4.24	206	191	10	191	113	13
12. 2-Phenylphenol	4.31	170.2	141.2	22	141	115.1	12
13. Pentachlorobenzene	4.33	250	142	30	250	179	30
14. Propachlor	4.60	176	57	8	120	77	19
15. Tecnazene	4.60	260.9	202.9	13	214.9	178.9	8
16. Diphenylamine	4.63	169.1	167.1	25	169.1	168.1	12
17. Cycloate	4.67	215	154	6	154	83	8
18. 2,3,5,6-Tetrachloroaniline	4.69	231	122	30	231	160	22
19. Chlorpropham	4.70	213.1	171.1	8	171	127.1	8
20. Ethalfluralin	4.75	316.1	276.1	10	276.1	202.1	15
21. Trifluralin	4.78	306.1	206.2	12	306.1	264.1	8
22. Benfluralin	4.80	292	160.1	20	292	264.1	8
23. Sulfotep	4.85	322	146	23	202	146	10
24. Diallate 1	4.89	234.1	150	18	234.1	192.1	12
25. Phorate	4.90	260.1	75	8	121.1	65	10
26. Diallate 2	4.95	234.1	150	18	234.1	192.1	12
27. α-BHC	5.00	219	183	8	181	145	15
28. Hexachlorobenzene	5.02	283.8	213.9	30	248.9	213.9	14
29. Dicloran	5.03	206	147.9	18	176	148	10
30. Pentachloroanisole	5.04	279.9	236.9	23	266.9	238.9	10
31. Atrazine	5.05	215	173.1	8	200.1	122.1	10
32. Clomazone	5.10	204	107	18	125	89	13
33. β-BHC	5.12	219	183	8	181	145	15
34. Profluralin	5.14	330.1	69	25	318.1	199	17
35. Terbuthylazine	5.16	229.1	173.1	8	172.8	137.9	8
36. Terbufos	5.17	231	129	23	231	175	12
37. γ-BHC	5.16	219	183	8	181	145	15
38. Propyzamide	5.18	173	109	27	173	145	13
39. Diazinon	5.19	304	179.1	12	137.1	84.1	12
40. Fonofos	5.19	246.1	137.1	8	137.1	109	6
41. Quintozene	5.19	294.8	237	15	236.8	119	22

(continued)

Column	Low-pressure GC column kit (factory-coupled restrictor column [5 m x 0.18 mm ID] and Rtx-5ms analytical column [15 m, 0.53 mm ID, 1 µm plus 1 m integrated transfer line on the outlet end]) (cat.# 11800)
Standard/Sample	GC multiresidue pesticide kit (cat.# 32562) Triphenylphosphate (cat.# 33258) Anthracene (cat.# 33264)
Diluent:	Acetonitrile
Conc.:	1 µg/mL
Injection	
Inj. Vol.:	1 µL splitless (hold 0.5 min)
Liner:	Topaz 4.0 mm ID single taper inlet liner w/ wool (cat.# 23447)
Inj. Temp.:	250 °C
Oven	
Oven Temp.:	80 °C (hold 1 min) to 320 °C at 35 °C/min (hold 5 min)
Carrier Gas	He, constant flow
Flow Rate:	2 mL/min
Detector	TSQ 8000
SIM Program:	35-550 m/z
Transfer Line Temp.:	290 °C
Analyzer Type:	Quadrupole
Source Temp.:	325 °C
Solvent Delay Time:	2 min
Tune Type:	PFTBA
Ionization Mode:	EI
Instrument	Thermo Scientific TSQ 8000 Triple Quadrupole GC-MS
Sample Preparation	Sample preparation: 10 g of homogenized strawberries were fortified with the internal standards at 20 ppb and then extracted with 10 mL of acetonitrile and QuEChERS EN 15662 salts (cat.# 25850). After centrifugation, 1 mL of supernatant was added to a 2 mL dSPE vial containing magnesium sulfate and PSA (cat.# 26124) for cleanup. The cleaned extract was spiked with GC multiresidue pesticide mix at 1 ppm.

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200+ Pesticides in Strawberry on Low-Pressure GC Column Kit

Peaks	tR (min)	Precursor Ion	Product Ion	Collision Energy	Confirmation Precursor Ion	Confirmation Product Ion	Collision Energy
42. Fluchloralin	5.21	306.1	159.7	20	306.1	264	8
43. Pentachlorobenzonitrile	5.21	275	205	30	273	238	17
44. Pyrimethanil	5.21	198.1	118.1	32	198.1	183	16
45. Tefluthrin	5.24	177	127.1	15	177	137.1	15
46. Disulfoton	5.25	153.1	97	12	88.1	59.9	6
47. Terbacil	5.26	161	144	14	160	117	8
48. Isazophos	5.29	172.1	130	10	161.1	119	8
49. δ-BHC	5.31	219	183	8	181	145	15
50. Triallate	5.32	270	186	18	268	184	20
51. Chlorothalonil	5.34	266	170	23	264	168	23
52. Anthracene (IS)	5.35	178	152	20			
53. Endosulfan ether	5.42	240.9	206	13	238.9	204	13
54. Propanil	5.44	219	163	8	217	161	8
55. Pentachloroaniline	5.45	265	194	22	263	192	20
56. Dimethachlor	5.46	197	148	8	134	105	13
57. Acetochlor	5.48	223	132	20	174	146	12
58. Transfluthrin	5.48	163	143	13	127.1	91.1	8
59. Vinclozolin	5.50	285	212	12	212	172	12
60. Chlorpyrifos methyl	5.52	286	93	22	286	207.9	12
61. Methyl parathion	5.52	263	109	10	263	136.2	8
62. Tolclofos-methyl	5.54	267	252	10	265	250	10
63. Alachlor	5.55	188	160	10	146	118	8
64. Metalaxyl	5.56	220.1	160.2	10	160.1	145.1	10
65. Propisochlor	5.56	223	132	18	162	120	13
66. Fenchlorphos	5.59	287	272	11	285	240	23
67. Heptachlor	5.59	272	237	13	100	65	12
68. Prodiamine	5.63	321	279	6	279	203	8
69. Pirimiphos methyl	5.65	305.1	180.1	8	290.1	125	22
70. Fenitrothion	5.66	277	109	16	260	125	12
71. Linuron	5.69	248	61	8	187	124	21
72. Malathion	5.69	173	99	13	127	99	6
73. Dichlofluanid	5.72	224	123	12	123	77.1	16
74. Pentachlorothioanisole	5.73	296	246	32	296	263	12
75. Metolachlor	5.76	238	162	10	162	133	13
76. Chlorpyrifos	5.77	314	257.9	12	196.9	168.9	14
77. Fenthion	5.77	278	109	18	278	169	17
78. Parathion	5.78	291.2	109.1	10	109	81	8
79. Anthraquinone	5.79	208.1	180.1	10	180.1	152.1	12
80. Triadimefon	5.79	208	110.9	24	208	180.8	10
81. Aldrin	5.80	298	263	8	263	193	31
82. Chlorthal-dimethyl	5.81	331.8	301	8	298.9	220.9	24
83. 4,4'-Dichlorobenzophenone	5.81	139	75	27	111	75.1	12
84. Pirimiphos ethyl	5.85	318.2	166.1	12	304.1	168.1	12
85. Fenson	5.86	268	77.1	18	141	77.1	8
86. Cyprodinil	5.87	225.2	209.8	12	224.1	208.1	20
87. Diphenamid	5.88	239	167	8	167	115	40
88. Isopropalin	5.89	280.1	118.1	25	280.1	238.1	8
89. MGK 264 1	5.89	164.1	80	24	164.1	93.1	12
90. Bromophos-methyl	5.90	331	316	13	329	314	13
91. Chlozolinate	5.95	331	259.1	8	186	145	16
92. Pendimethalin	5.95	281.1	252.2	8	252.1	162.1	10
93. Bioallethrin	5.96	136.1	93	11	123.2	81.1	8
94. Fipronil	5.97	367	213	30	369	215	30
95. MGK 264 2	5.97	164	67	10	164.1	80	24
96. Isodrin	5.97	260.9	190.9	28	193	123	30
97. Metazachlor	5.97	209	132	15	133	117	25
98. Penconazole	5.97	248.1	192	16	159	89	30
99. Chlorfenvinphos 1	6.04	323	267	10	267	159	15
100. Tolylfluanid	6.05	240	137	10	238	137	10
101. Bromfenvinphos-methyl	6.06	295	109	15	109	79	5
102. Heptachlor epoxide	6.07	353	263	13	263	193	29
103. Quinalphos	6.07	298	156.1	8	146.1	118.1	10
104. Triadimenol	6.07	168.1	70.1	10	128	65.1	22
105. Triflumizole	6.09	205.9	179	14	179	143.8	14
106. Captan	6.10	149	105	6	106.8	79	12
107. Procymidone	6.11	283	67.1	28	283	96	10
108. Folpet	6.14	259.9	130	16	103.9	76	10
109. Chlorbenside	6.15	268	125.1	8	125	89.1	17
110. Bromophos-ethyl	6.17	358.9	303	17	330.9	303	8
111. *trans*-Chlordane	6.19	375	266	18	272	237	12
112. Paclobutrazol	6.19	237.8	127	10	236.1	125.1	12
113. 2,4'-DDE	6.19	316	246	15	246	176	30
114. Tetrachlorvinphos	6.20	333	109	17	331	109	20
115. Fenamiphos	6.25	303.1	195.1	8	217	202	9
116. Flutolanil	6.26	281	173	10	173	145	14
117. Prothiofos	6.26	309	239	15	267	221	16
118. *cis*-Chlordane	6.27	375	266	18	272	237	12
119. Bromfenvinphos	6.27	325	269	10	323	267	10
120. Fludioxonil	6.27	248	127	30	153.8	127	8
121. Flutriafol	6.27	219.1	123	14	123.1	95	12
122. Iodofenphos	6.27	377	332	30	377	362	15
123. Pretilachlor	6.27	262	202	8	162	132	18
124. Profenofos	6.27	339	188	30	337	267	13
125. Chlorfenvinphos 2	6.27	323	267	10	267	159	15
126. Endosulfan I	6.28	241	206	10	195	159	6

(continued)

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Peaks	tR (min)	Precursor Ion	Product Ion	Collision Energy	Confirmation Precursor Ion	Confirmation Product Ion	Collision Energy
127. *trans*-Nonachlor	6.28	409	263	25	409	300	23
128. Chlorfenson	6.29	302	175	8	175	111	8
129. Oxadiazon	6.33	258	175	8	175	112	13
130. Oxyfluorfen	6.34	300	223	15	252.1	146.1	33
131. Myclobutanil	6.38	179	125	14	179	152	8
132. Bupirimate	6.39	316.2	208.2	8	273.1	193.2	8
133. Flusilazole	6.39	233.1	164.9	18	206.1	137	20
134. 4,4'-DDE	6.40	316	246	15	246	176	30
135. Tricyclazole	6.41	189	135.2	18	189	162	12
136. 2,4'-DDD	6.42	235	165.1	21	235	199.1	16
137. Dieldrin	6.42	277	241	8	263	193	34
138. Fluazifop-P-butyl	6.42	383.1	268.2	8	383.1	282.2	12
139. Chlorfenapyr	6.46	247	227.1	12	137	75	28
140. Ethylan	6.46	223	167	12	223	193	28
141. Nitrofen	6.49	283	202	10	202	139.1	20
142. Chlorthiophos 1	6.50	256.9	165	26	256.9	239	12
143. Chlorobenzilate	6.52	251	139	14	139	111	12
144. Endrin	6.55	263	193	30	245	173	25
145. Ethion	6.58	231	129	24	153	97	10
146. 4,4'-DDD	6.59	235	165.1	21	235	199.1	16
147. Chlorthiophos 2	6.61	325	269	14	297	269	8
148. 2,4'-DDT	6.62	235	165.1	21	235	199.1	16
149. Triazophos	6.65	256.9	161.7	8	161	134.1	8
150. *cis*-Nonachlor	6.65	409	263	25	409	300	23
151. Sulprofos	6.66	322	156	8	156	141	13
152. Carfentrazone ethyl	6.67	340.2	312.2	10	330	310.1	8
153. Endrin aldehyde	6.68	344.9	243.1	17	344.9	244.9	14
154. 4,4'-Methoxychlor olefin	6.70	308	223.1	30	238.1	152.1	35
155. Carbophenothion	6.70	342	157	10	125	97	6
156. Norflurazon	6.74	303	145	17	145	95	18
157. Edifenphos	6.75	310	109	29	173	109	8
158. Lenacil	6.76	153	135.7	14	135.8	52.9	18
159. 4,4'-DDT	6.61	235	165.1	21	235	199.1	16
160. Endosulfan sulfate	6.81	272	237	10	241	206	8
161. Hexazinone	6.83	171.1	71.1	16	128	83	10
162. Piperonyl butoxide	6.83	176.1	103	26	176.1	131.1	14
163. Propargite	6.83	201.1	81.1	10	135.1	107	14
164. Resmethrin	6.83	143.1	128	10	123.2	81.2	8
165. Tebuconazole	6.85	250.1	125.2	22	125	89	16
166. Nitralin	6.95	316.1	274	8	274	216.2	6
167. Captafol	6.99	150.8	78.9	18	79	77.1	12
168. TPP (IS)	6.99	326	169	30	326	215	20
169. Iprodione	7.01	314	245	14	187	124.1	24
170. Bifenthrin	7.05	181.1	166.1	10	165.1	115.1	30
171. Fenpropathrin	7.05	265	210	8	181	152	24
172. Pyridaphenthion	7.05	340.1	199.1	8	199.1	77.1	26
173. Tetramethrin	7.06	164	77	25	164	107	12
174. Bromopropylate	7.08	340.8	183	15	183	154.9	12
175. Azinphos-ethyl	7.80	160	77	18	132	77	12
176. EPN	7.11	169	77	22	169	141	8
177. Phosmet	7.11	160	77	24	160	133	10
178. Methoxychlor	7.12	227	141	33	227	169	25
179. Tebufenpyrad	7.12	333	276	8	276	171	10
180. Endrin ketone	7.13	317	101	21	315	279	8
181. Phenothrin	7.19	183.1	168.1	12	123.2	81.1	8
182. Tetradifon	7.25	227	199	10	159	131	10
183. Pyriproxyfen	7.28	226.1	186.1	16	136.1	78	20
184. Phosalone	7.29	367	111	36	182	111	14
185. Leptophos	7.31	377	269	37	171	77	18
186. λ-Cyhalothrin	7.31	197.1	141.1	10	197	91	26
187. Acrinathrin	7.32	289.1	93	10	289	91	24
188. Pyrazophos	7.41	265.1	210.1	10	221.1	193.1	10
189. Mirex	7.44	274	239	15	272	237	15
190. Fenarimol	7.46	219	107.1	12	139	111	16
191. Azinphos-methyl	7.46	160	77	18	132	77	12
192. Pyraclofos	7.47	360	139	14	194	138	18
193. *cis*-Permethrin	7.54	183.1	153.1	12	163	127.1	6
194. trans-Permethrin	7.58	183.1	153.1	12	163	127.1	6
195. Pyridaben	7.62	147	117	20	147	119	8
196. Coumaphos	7.66	362	109	17	210	182	10
197. Fluquinconazole	7.66	340	108	42	340	298	14
198. Prochloraz	7.67	308	70	13	180	138	12
199. Cyfluthrin	7.73	226.1	199	8	226	151	30
200. Cypermethrin	7.83	181.1	127	28	181.1	152.1	20
201. Flucythrinate 1	7.86	199.1	157.1	8	157.1	107.1	13
202. Acequinocyl	7.89	342.4	188.1	14	188	132	10
203. Etofenprox	7.90	163.1	107	18	163.1	135.1	10
204. Flucythrinate 2	7.91	199.1	157.1	8	157.1	107.1	13
205. Fluridone	8.03	328.1	127.1	40	328.1	259	26
206. Fenvalerate	8.10	169.1	127.1	10	167.1	125	8
207. Tau-fluvalinate	8.15	252	55	17	250.1	55	23
208. Fenvalerate	8.16	169.1	127.1	10	167.1	125	8
209. Deltamethrin	8.33	252.9	93.1	19	181.1	152	20

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