Supporting Information – Analytical and Bioanalytical Chemistry

Development, Validation, and Application of a Multi-Method for the Determination of Mycotoxins, Plant Growth Regulators, Tropane Alkaloids, and Pesticides in Cereals by Two-Dimensional Liquid Chromatography Tandem Mass Spectrometry

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Supporting Information Description

Tables of concentration of analytes in multi-standard working solution; concentration of internal standards in working solution; MS/MS parameters and chromatographic retention time; spiking levels of validation; evaluated levels, calibration range, $R^2$, and measurement uncertainty for contaminants; evaluated levels, calibration range, $R^2$, and measurement uncertainty for pesticides; recoveries, repeatabilities, reproducibilities for pesticides; matrix suppression/enhancement effects for pesticides; recoveries, repeatabilities, reproducibilities for contaminants; overall validation results; detailed survey results.

Supplementary Material

Table S1 Concentration of Analytes in Combined Multi-Standard Working Solution.

| Analyte                              | Concentration $[\mu g/mL]$ |
|--------------------------------------|----------------------------|
| aflatoxin B1                         | 1                          |
| aflatoxin B2                         | 1                          |
| aflatoxin G1                         | 1                          |
| aflatoxin G2                         | 1                          |
| altenuene                            | 20                         |
| alternariol                          | 1                          |
| alternariol monomethyl ether         | 1                          |
| citrinin                             | 50                         |
| deoxynivalenol                       | 50                         |
| 15-acetyldeoxynivalenol              | 50                         |
| 3-acetyldeoxynivalenol               | 50                         |
| diacetoxyscirpenol                   | 5                          |
| fumonisin B1                         | 10                         |
| hydrolyzed fumonisin B1              | 100                        |
| fumonisin B2                         | 10                         |
| hydrolyzed fumonisin B2              | 100                        |
| fumonisin B3                         | 10                         |
| fusarenon X                          | 200                        |
| HT-2 toxin                           | 50                         |
| neosolaniol                          | 5                          |
| nivalenol                            | 200                        |
| ochratoxin A                         | 3                          |
| sterigmatocystin                     | 1                          |
| T-2 toxin                            | 10                         |
| tentoxin                             | 5                          |
| zearalenone                          | 10                         |
| zearalenone-14-glucoside             | 50                         |
| Analyte                                      | Concentration [µg/mL] |
|---------------------------------------------|----------------------|
| zearalenone-14-sulfate                      | 50                   |
| zearalenone-14,16-disulfate                 | 100                  |
| α-zearalenol                                | 10                   |
| α-zearalenol-14-glucoside                   | 50                   |
| α-zearalenol-14-sulfate                     | 10                   |
| β-zearalenol                                | 10                   |
| β-zearalenol-14-glucoside                   | 50                   |
| β-zearalenol-14-sulfate                     | 10                   |
| zearalanone                                 | 50                   |
| zearalanone-14-glucoside                    | 10                   |
| α-zearalanol                                | 100                  |
| β-zearalanol                                | 100                  |
| chlormequat                                 | 5                    |
| mepiquat                                    | 5                    |
| atropine                                    | 5                    |
| scopolamine                                 | 5                    |
| pesticide mix “red”, per compound           | 5                    |
| pesticide mix “yellow”, per compound        | 5                    |
| pesticide mix “orange”, per compound        | 5                    |
| pesticide mix “purple”, per compound        | 5                    |
| pesticide mix “blue”, per compound          | 5                    |
| pesticide mix “green”, per compound         | 5                    |
| pesticide mix “black 1”, per compound       | 5                    |
| pesticide mix “black 2”, per compound       | 5                    |
| daminozide                                   | 5                    |
| aminopyralid                                | 50                   |
| dodine                                       | 50                   |
Table S2 Concentration of Internal Standards (ISTD) in Combined Working Solution.

| ISTD                                      | Concentration [µg/mL] |
|-------------------------------------------|-----------------------|
| zearalenone dimethyl ether-d6             | 5                     |
| chlormequat-d4                            | 5                     |
| mepiquat-d4                               | 5                     |
| carbendazim-d4                            | 2.5                   |
| imidacloprid-d4                           | 2.5                   |
| diazinon-d10                              | 5                     |
| diuron-d6                                 | 2.5                   |
Table S3 MS/MS Parameters [Declustering Potential (DP), Collision Energy (CE), Collision Exit Potential (CXP)] and Retention Time (RT) for 378 Analytes and 8 Internal Standards; Quant.: Quantifier.

| Analyte                        | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-------------------------------|----------|------------|---------------------|-------------------|--------|--------|---------|----------|
| carbenazim-d4                 | ESI +    | 196        | 164                 | 71                | 27     | 12     | 12.04   |
| carbenazim-d4                 | ESI +    | 196        | 136                 | 71                | 45     | 22     | 12.07   |
| diuron-d6                     | ESI +    | 239        | 78                  | 30                | 35     | 8      | 13.27   |
| diuron-d6                     | ESI +    | 241        | 78                  | 30                | 35     | 8      | 13.33   |
| diazinon-d10                  | ESI +    | 315        | 154                 | 31                | 33     | 14     | 16.24   |
| diazinon-d10                  | ESI +    | 315        | 170                 | 31                | 33     | 14     | 16.30   |
| imidacloprid-d4               | ESI +    | 260        | 179                 | 36                | 21     | 17     | 12.16   |
| imidacloprid-d4               | ESI +    | 260        | 213                 | 51                | 21     | 15     | 12.19   |
| propamocarb-d7                | ESI +    | 196        | 103                 | 21                | 27     | 16     | 3.67    |
| propamocarb-d7                | ESI +    | 196        | 151                 | 21                | 21     | 12     | 3.66    |
| zearalenone dimethyl ether-d6 | ESI +    | 353        | 221                 | 71                | 25     | 26     | 17.23   |
| zearalenone dimethyl ether-d6 | ESI +    | 353        | 317                 | 71                | 19     | 42     | 17.25   |
| chlormequat-d4                | ESI +    | 126        | 58                  | 41                | 43     | 6      | 3.85    |
| mepiquat-d4                   | ESI +    | 117        | 61                  | 16                | 36     | 12     | 5.09    |
| aflatoxin B1                  | ESI +    | 313        | 285                 | 191               | 31     | 24     | 17.24   |
| aflatoxin B1                  | ESI +    | 315        | 287                 | 181               | 37     | 32     | 16.56   |
| aflatoxin B2                  | ESI +    | 315        | 259                 | 181               | 41     | 20     | 16.56   |
| aflatoxin G1                  | ESI +    | 329        | 243                 | 74                | 38     | 13     | 16.26   |
| aflatoxin G1                  | ESI +    | 329        | 311                 | 61                | 31     | 10     | 16.25   |
| aflatoxin G2                  | ESI +    | 331        | 189                 | 11                | 59     | 16     | 15.48   |
| aflatoxin G2                  | ESI +    | 331        | 245                 | 64                | 42     | 13     | 15.49   |
| altenuene                     | ESI +    | 293        | 239                 | 76                | 29     | 18     | 12.83   |
| altenuene                     | ESI +    | 293        | 257                 | 76                | 21     | 30     | 12.83   |
| 3-acetyldeoxynivalenol         | ESI +    | 339        | 203                 | 75                | 25     | 10     | 12.03   |
| 3-acetyldeoxynivalenol         | ESI +    | 339        | 231                 | 75                | 22     | 10     | 12.04   |
| 15-acetyldeoxynivalenol        | ESI +    | 356        | 321                 | 16                | 17     | 24     | 11.98   |
| 15-acetyldeoxynivalenol        | ESI +    | 356        | 137                 | 16                | 21     | 12     | 11.98   |
| deoxynivalenol                | ESI +    | 297        | 203                 | 100               | 20     | 10     | 11.10   |
| deoxynivalenol                | ESI +    | 297        | 249                 | 86                | 15     | 26     | 11.10   |
| deoxynivalenol-3-glucoside    | ESI +    | 459        | 297                 | 51                | 13     | 10     | 4.06    |
| deoxynivalenol-3-glucoside    | ESI +    | 476        | 297                 | 46                | 19     | 10     | 4.06    |
| diacetoxyis cirpenol           | ESI +    | 384        | 307                 | 36                | 17     | 10     | 13.22   |
| diacetoxyis cirpenol           | ESI +    | 384        | 247                 | 36                | 21     | 8      | 13.22   |
| fumonisin B1                  | ESI +    | 722        | 334                 | 26                | 55     | 16     | 7.30    |
| fumonisin B1                  | ESI +    | 722        | 352                 | 26                | 49     | 20     | 7.29    |
| fumonisin B2                  | ESI +    | 706        | 336                 | 16                | 51     | 12     | 7.24    |
| fumonisin B2                  | ESI +    | 706        | 318                 | 16                | 53     | 10     | 7.24    |
| fumonisin B3                  | ESI +    | 706        | 336                 | 31                | 49     | 20     | 7.24    |
| fumonisin B3                  | ESI +    | 706        | 354                 | 31                | 45     | 32     | 7.24    |
| fusarenon X                   | ESI +    | 372        | 229                 | 20                | 20     | 10     | 11.49   |
| Analyte                          | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|---------------------------------|----------|------------|---------------------|-------------------|--------|--------|--------|---------|
| fusarenon X                     | ESI +    | 372        | 175                 | 51                | 25     | 18     |        | 11.49   |
| hydrolyzed fumonisin B1         | ESI +    | x          | 406                 | 370               | 111    | 27     | 14     | 7.24    |
| hydrolyzed fumonisin B1         | ESI +    |            | 406                 | 388               | 111    | 25     | 14     | 7.24    |
| hydrolyzed fumonisin B2         | ESI +    |            | 390                 | 372               | 61     | 27     | 12     | 4.59    |
| hydrolyzed fumonisin B2         | ESI +    | x          | 390                 | 336               | 61     | 33     | 20     | 4.59    |
| hydrolyzed fumonisin B3         | ESI +    |            | 390                 | 354               | 51     | 27     | 24     | 4.59    |
| hydrolyzed fumonisin B3         | ESI +    |            | 390                 | 336               | 51     | 31     | 22     | 4.59    |
| HT-2 toxin                      | ESI +    | x          | 442                 | 263               | 41     | 17     | 13     | 13.56   |
| HT-2 toxin                      | ESI +    |            | 442                 | 215               | 41     | 15     | 13     | 13.57   |
| neosolaniol                     | ESI +    |            | 400                 | 185               | 61     | 27     | 16     | 11.64   |
| neosolaniol                     | ESI +    | x          | 400                 | 215               | 61     | 25     | 18     | 11.64   |
| sterigmatocystin                | ESI +    |            | 325                 | 281               | 41     | 51     | 18     | 17.67   |
| sterigmatocystin                | ESI +    | x          | 325                 | 310               | 41     | 35     | 28     | 17.67   |
| T-2 toxin                       | ESI +    |            | 484                 | 215               | 76     | 25     | 26     | 14.85   |
| T-2 toxin                       | ESI +    | x          | 484                 | 245               | 51     | 19     | 13     | 14.85   |
| tentoxin                        | ESI +    |            | 415                 | 58                | 131    | 73     | 8      | 14.12   |
| tentoxin                        | ESI +    | x          | 415                 | 312               | 131    | 29     | 30     | 14.12   |
| zearalenone-14-glucoside        | ESI +    |            | 498                 | 319               | 36     | 19     | 10     | 14.13   |
| zearalenone-14-glucoside        | ESI +    |            | 498                 | 283               | 36     | 35     | 10     | 14.13   |
| zearalenone-14-sulfate          | ESI +    | x          | 416                 | 301               | 96     | 25     | 24     | 13.41   |
| zearalenone-14-sulfate          | ESI +    |            | 416                 | 319               | 96     | 15     | 28     | 13.41   |
| α-zearalenol-14-glucoside       | ESI +    |            | 500                 | 285               | 41     | 31     | 10     | 13.26   |
| α-zearalenol-14-glucoside       | ESI +    | x          | 500                 | 321               | 41     | 17     | 10     | 13.26   |
| β-zearalenol-14-glucoside       | ESI +    |            | 500                 | 303               | 66     | 23     | 10     | 12.47   |
| β-zearalenol-14-glucoside       | ESI +    | x          | 500                 | 321               | 66     | 17     | 24     | 12.47   |
| zearalanone                     | ESI +    |            | 321                 | 303               | 96     | 19     | 10     | 15.98   |
| zearalanone                     | ESI +    | x          | 321                 | 315               | 96     | 73     | 14     | 15.98   |
| zearalanone-14-glucoside        | ESI +    | x          | 500                 | 303               | 71     | 33     | 10     | 14.11   |
| zearalanone-14-glucoside        | ESI +    |            | 500                 | 321               | 71     | 17     | 10     | 14.11   |
| α-zearalanol                    | ESI +    |            | 323                 | 305               | 61     | 13     | 30     | 14.60   |
| α-zearalanol                    | ESI +    | x          | 323                 | 149               | 61     | 35     | 12     | 14.59   |
| β-zearalanol                    | ESI +    |            | 323                 | 189               | 56     | 31     | 20     | 13.82   |
| β-zearalanol                    | ESI +    | x          | 323                 | 305               | 56     | 11     | 30     | 13.82   |
| atropine                        | ESI +    | x          | 290                 | 124               | 80     | 30     | 10     | 3.55    |
| atropine                        | ESI +    |            | 290                 | 93                | 80     | 50     | 10     | 3.56    |
| scopolamine                     | ESI +    | x          | 305                 | 156               | 80     | 24     | 10     | 3.39    |
| scopolamine                     | ESI +    |            | 305                 | 138               | 80     | 32     | 10     | 3.39    |
| chlormequat                     | ESI +    | x          | 122                 | 58                | 41     | 43     | 6      | 3.87    |
| chlormequat                     | ESI +    |            | 124                 | 58                | 41     | 43     | 6      | 3.87    |
| nepiquat                        | ESI +    | x          | 114                 | 98                | 40     | 36     | 12     | 5.08    |
| nepiquat                        | ESI +    |            | 114                 | 58                | 51     | 37     | 10     | 5.09    |
| 3,4,5-trimethacarb              | ESI +    |            | 194                 | 122               | 81     | 35     | 6      | 13.72   |
| 3,4,5-trimethacarb              | ESI +    | x          | 194                 | 137               | 80     | 15     | 6      | 13.72   |
| acephate                        | ESI +    | x          | 184                 | 143               | 16     | 13     | 8      | 11.00   |
| acephate                        | ESI +    |            | 184                 | 95                | 16     | 31     | 8      | 11.00   |
| acetamiprid                     | ESI +    | x          | 223                 | 126               | 50     | 27     | 6      | 12.51   |
| acetamiprid                     | ESI +    |            | 223                 | 90                | 26     | 49     | 10     | 12.51   |
| Analyte                        | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-------------------------------|----------|------------|---------------------|-------------------|--------|--------|---------|----------|
| acetochlor                    | ESI +    | x          | 270                 | 224               | 31     | 15     | 12      | 15.83    |
| acetochlor                    | ESI +    |            | 272                 | 226               | 31     | 15     | 12      | 15.82    |
| alachlor                      | ESI +    | x          | 270                 | 162               | 64     | 29     | 9       | 15.90    |
| alachlor                      | ESI +    |            | 270                 | 238               | 64     | 15     | 10      | 15.90    |
| aldicarb                      | ESI +    | x          | 208                 | 116               | 20     | 13     | 6       | 12.32    |
| aldicarb                      | ESI +    |            | 208                 | 89                | 21     | 21     | 6       | 12.33    |
| aldicarb-sulfoxide            | ESI +    | x          | 224                 | 132               | 36     | 15     | 12      | 11.09    |
| aldicarb-sulfoxide            | ESI +    |            | 224                 | 89                | 36     | 25     | 10      | 11.09    |
| aldoxycarb                    | ESI +    | x          | 240                 | 148               | 20     | 19     | 8       | 11.38    |
| aldoxycarb                    | ESI +    |            | 240                 | 166               | 20     | 17     | 10      | 11.37    |
| ametocarbazidin               | ESI +    |            | 276                 | 149               | 91     | 51     | 12      | 16.25    |
| ametocarbazidin               | ESI +    | x          | 276                 | 176               | 91     | 51     | 4       | 16.25    |
| ametryn                       | ESI +    | x          | 228                 | 186               | 50     | 25     | 10      | 14.17    |
| ametryn                       | ESI +    |            | 228                 | 96                | 46     | 35     | 10      | 14.17    |
| amidosulfuron                 | ESI +    |            | 370                 | 218               | 36     | 33     | 16      | 12.39    |
| amidosulfuron                 | ESI +    | x          | 370                 | 261               | 31     | 25     | 16      | 12.38    |
| aminocarb                     | ESI +    |            | 209                 | 137               | 31     | 35     | 12      | 13.18    |
| aminocarb                     | ESI +    | x          | 209                 | 152               | 30     | 19     | 8       | 13.18    |
| aminopyralid                  | ESI +    |            | 209                 | 163               | 41     | 29     | 12      | 5.16     |
| aminopyralid                  | ESI +    | x          | 209                 | 191               | 41     | 19     | 14      | 5.16     |
| amitraz                       | ESI +    |            | 294                 | 122               | 51     | 41     | 10      | 18.40    |
| amitraz                       | ESI +    | x          | 294                 | 163               | 30     | 21     | 8       | 18.40    |
| amitraz-amide                 | ESI +    | x          | 150                 | 105               | 61     | 25     | 8       | 12.42    |
| amitraz-amide                 | ESI +    |            | 150                 | 107               | 61     | 29     | 10      | 12.42    |
| amitraz-amidin                | ESI +    | x          | 163                 | 106               | 36     | 45     | 10      | 2.81     |
| amitraz-amidin                | ESI +    |            | 163                 | 77                | 36     | 55     | 10      | 2.80     |
| ancyimidol                    | ESI +    | x          | 257                 | 135               | 36     | 37     | 12      | 13.21    |
| ancyimidol                    | ESI +    |            | 257                 | 92                | 36     | 73     | 16      | 13.21    |
| atrazine                      | ESI +    |            | 216                 | 104               | 21     | 37     | 10      | 13.20    |
| atrazine                      | ESI +    | x          | 216                 | 174               | 35     | 25     | 10      | 13.20    |
| atrazine-desethyl-desisopropyl| ESI +    |            | 188                 | 104               | 70     | 33     | 6       | 11.87    |
| atrazine-desethyl-desisopropyl| ESI +    | x          | 188                 | 146               | 36     | 25     | 12      | 11.88    |
| avermectin B1a                | ESI +    |            | 890                 | 567               | 61     | 19     | 8       | 18.79    |
| avermectin B1a                | ESI +    |            | 890                 | 305               | 51     | 35     | 14      | 18.79    |
| avermectin B1b                | ESI +    |            | 877                 | 291               | 60     | 35     | 16      | 18.65    |
| avermectin B1b                | ESI +    | x          | 877                 | 553               | 61     | 21     | 16      | 18.65    |
| azacarbazidol                 | ESI +    |            | 300                 | 159               | 41     | 41     | 14      | 14.57    |
| azacarbazidol                 | ESI +    | x          | 300                 | 231               | 41     | 25     | 18      | 14.57    |
| azamethiphos                  | ESI +    |            | 325                 | 183               | 16     | 21     | 10      | 13.92    |
| azamethiphos                  | ESI +    | x          | 325                 | 112               | 16     | 40     | 10      | 13.92    |
| aziprotryne                   | ESI +    |            | 226                 | 125               | 21     | 19     | 8       | 14.56    |
| aziprotryne                   | ESI +    | x          | 226                 | 156               | 21     | 21     | 10      | 14.56    |
| azoxystrobin                  | ESI +    | x          | 404                 | 344               | 31     | 29     | 12      | 16.60    |
| azoxystrobin                  | ESI +    |            | 404                 | 372               | 50     | 19     | 20      | 16.59    |
| benalaxyl                     | ESI +    |            | 326                 | 148               | 36     | 31     | 14      | 16.91    |
| benalaxyl                     | ESI +    | x          | 326                 | 208               | 21     | 21     | 10      | 16.91    |
| bendiocarb                    | ESI +    | x          | 224                 | 109               | 11     | 21     | 10      | 12.87    |
| Analyte                                   | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|------------------------------------------|----------|------------|---------------------|-------------------|--------|--------|--------|---------|
| bendiocarb                               | ESI +    | 224        | 167                 | 20                | 13     | 8      | 12.86  |
| benfuranacarb                            | ESI +    | x 411      | 190                 | 56                | 17     | 14     | 17.95  |
| benfuranacarb                            | ESI +    | 411        | 195                 | 15                | 31     | 10     | 17.95  |
| benodanil                                | ESI +    | 324        | 231                 | 46                | 33     | 20     | 13.86  |
| benodanil                                | ESI +    | x 324      | 76                  | 76                | 83     | 2      | 13.86  |
| benomyl                                  | ESI +    | x 291      | 160                 | 20                | 45     | 14     | 16.55  |
| benomyl                                  | ESI +    | 291        | 192                 | 11                | 17     | 16     | 16.55  |
| bensulfuron-methyl                       | ESI +    | x 411      | 119                 | 41                | 51     | 12     | 16.03  |
| bensulfuron-methyl                       | ESI +    | x 411      | 149                 | 65                | 27     | 8      | 16.03  |
| benthiavalicarb-isopropyl                | ESI +    | x 382      | 180                 | 50                | 35     | 10     | 15.03  |
| benthiavalicarb-isopropyl                | ESI +    | 382        | 197                 | 86                | 27     | 14     | 15.03  |
| bitermanol                               | ESI +    | 338        | 269                 | 36                | 15     | 16     | 16.44  |
| bitermanol                               | ESI +    | x 338      | 70                  | 15                | 25     | 10     | 16.43  |
| boscalid                                 | ESI +    | 343        | 140                 | 96                | 27     | 8      | 15.23  |
| boscalid                                 | ESI +    | x 343      | 307                 | 75                | 27     | 18     | 15.23  |
| bromacil                                 | ESI +    | x 261      | 205                 | 87                | 19     | 10     | 12.61  |
| bromacil                                 | ESI +    | 263        | 207                 | 87                | 19     | 10     | 12.62  |
| bromuconazole                            | ESI +    | x 378      | 159                 | 66                | 37     | 8      | 16.39  |
| bromuconazole                            | ESI +    | 378        | 70                  | 66                | 35     | 10     | 16.38  |
| bupirimate                               | ESI +    | 317        | 108                 | 51                | 35     | 6      | 16.24  |
| bupirimate                               | ESI +    | x 317      | 166                 | 45                | 33     | 8      | 16.24  |
| buprofezin                               | ESI +    | x 306      | 116                 | 31                | 21     | 6      | 17.45  |
| buprofezin                               | ESI +    | 306        | 201                 | 26                | 17     | 16     | 17.45  |
| butachlor                                | ESI +    | 312        | 162                 | 61                | 31     | 14     | 17.59  |
| butachlor                                | ESI +    | x 312      | 238                 | 61                | 15     | 8      | 17.58  |
| butocarboxim                             | ESI +    | x 208      | 116                 | 15                | 9      | 4      | 12.32  |
| butocarboxim                             | ESI +    | 208        | 75                  | 26                | 17     | 14     | 12.32  |
| butocarboxim-sulfoxide                   | ESI +    | x 207      | 132                 | 20                | 11     | 6      | 10.96  |
| butocarboxim-sulfoxide                   | ESI +    | 207        | 75                  | 36                | 19     | 14     | 10.91  |
| butoxycarboxim                           | ESI +    | x 223      | 106                 | 31                | 15     | 8      | 11.35  |
| butoxycarboxim                           | ESI +    | 240        | 106                 | 20                | 19     | 4      | 11.35  |
| buturon                                  | ESI +    | x 237      | 84                  | 55                | 21     | 4      | 13.36  |
| buturon                                  | ESI +    | 237        | 99                  | 51                | 63     | 8      | 13.36  |
| cadusafos                                | ESI +    | x 271      | 159                 | 90                | 19     | 9      | 16.46  |
| cadusafos                                | ESI +    | 271        | 215                 | 90                | 12     | 10     | 16.46  |
| carbaryl                                 | ESI +    | 202        | 127                 | 95                | 43     | 7      | 13.20  |
| carbaryl                                 | ESI +    | x 202      | 145                 | 95                | 16     | 7      | 13.19  |
| carbendazim                              | ESI +    | 192        | 132                 | 16                | 41     | 2      | 12.03  |
| carbendazim                              | ESI +    | x 192      | 160                 | 31                | 23     | 10     | 12.03  |
| carbofuran                               | ESI +    | 222        | 123                 | 25                | 29     | 6      | 13.05  |
| carbofuran                               | ESI +    | x 222      | 165                 | 25                | 17     | 8      | 13.05  |
| carbofuran-3-hydroxy                     | ESI +    | x 238      | 163                 | 16                | 23     | 14     | 11.80  |
| carbofuran-3-hydroxy                     | ESI +    | 238        | 181                 | 56                | 17     | 12     | 11.80  |
| carbosulfan                              | ESI +    | x 381      | 118                 | 50                | 25     | 6      | 18.77  |
| carbosulfan                              | ESI +    | 381        | 160                 | 61                | 21     | 14     | 18.77  |
| carboxin                                 | ESI +    | x 236      | 143                 | 40                | 21     | 8      | 13.52  |
| carboxin                                 | ESI +    | 236        | 93                  | 56                | 47     | 8      | 13.51  |
| Analyte                     | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-----------------------------|----------|------------|---------------------|-------------------|--------|--------|--------|---------|
| chlorantraniliprole         | ESI +    |            | 484                 | 286               | 51     | 19     | 10     | 14.79   |
| chlorantraniliprole         | ESI +    | x          | 484                 | 453               | 51     | 27     | 10     | 14.79   |
| chlorbromuron               | ESI +    |            | 293                 | 182               | 65     | 23     | 10     | 14.24   |
| chlorbromuron               | ESI +    | x          | 293                 | 204               | 56     | 29     | 14     | 14.24   |
| chlorfluazuron              | ESI +    |            | 540                 | 158               | 71     | 29     | 12     | 18.25   |
| chlorfluazuron              | ESI +    | x          | 540                 | 383               | 70     | 31     | 12     | 18.25   |
| chloridazon                 | ESI +    |            | 222                 | 104               | 81     | 33     | 20     | 12.01   |
| chloridazon                 | ESI +    |            | 222                 | 92                | 70     | 35     | 4      | 12.00   |
| chloroxuron                 | ESI +    | x          | 291                 | 218               | 66     | 33     | 10     | 15.14   |
| chloroxuron                 | ESI +    |            | 291                 | 72                | 65     | 41     | 4      | 15.15   |
| chlorpropham                | ESI +    |            | 214                 | 154               | 31     | 25     | 14     | 14.17   |
| chlorpropham                | ESI +    | x          | 214                 | 172               | 44     | 12     | 7      | 14.17   |
| chlorsulfuron               | ESI +    | x          | 358                 | 141               | 65     | 23     | 6      | 12.46   |
| chlorsulfuron               | ESI +    |            | 358                 | 167               | 51     | 25     | 12     | 12.47   |
| chlortoluron                | ESI +    | x          | 213                 | 72                | 31     | 31     | 6      | 13.12   |
| chlortoluron                | ESI +    |            | 215                 | 72                | 31     | 31     | 6      | 13.12   |
| cinidon-ethyl               | ESI +    |            | 394                 | 348               | 56     | 27     | 10     | 19.05   |
| cinidon-ethyl               | ESI +    |            | 394                 | 77                | 56     | 89     | 14     | 19.05   |
| cinosulfuron                | ESI +    |            | 414                 | 157               | 36     | 31     | 10     | 13.75   |
| cinosulfuron                | ESI +    | x          | 414                 | 183               | 50     | 23     | 10     | 13.75   |
| clodinafop-propargyl        | ESI +    |            | 360                 | 164               | 44     | 25     | 8      | 16.63   |
| clodinafop-propargyl        | ESI +    |            | 360                 | 268               | 44     | 20     | 8      | 16.63   |
| clofentezine                | ESI +    | x          | 303                 | 102               | 36     | 53     | 2      | 17.22   |
| clofentezine                | ESI +    |            | 303                 | 138               | 60     | 21     | 6      | 17.22   |
| clomazone                   | ESI +    | x          | 240                 | 125               | 40     | 27     | 6      | 14.64   |
| clomazone                   | ESI +    |            | 240                 | 89                | 40     | 65     | 4      | 14.64   |
| clothianidin                | ESI +    | x          | 250                 | 132               | 26     | 27     | 12     | 11.70   |
| clothianidin                | ESI +    |            | 250                 | 169               | 26     | 19     | 14     | 11.70   |
| cyanazine                   | ESI +    | x          | 241                 | 104               | 33     | 36     | 9      | 12.59   |
| cyanazine                   | ESI +    |            | 241                 | 214               | 55     | 23     | 12     | 12.59   |
| cyazofamid                  | ESI +    | x          | 325                 | 108               | 36     | 19     | 6      | 16.45   |
| cyazofamid                  | ESI +    |            | 325                 | 261               | 56     | 15     | 14     | 16.45   |
| cymoxanil                   | ESI +    |            | 199                 | 111               | 16     | 25     | 2      | 12.18   |
| cymoxanil                   | ESI +    | x          | 199                 | 128               | 36     | 13     | 10     | 12.18   |
| cyproconazole               | ESI +    |            | 292                 | 125               | 46     | 39     | 8      | 14.77   |
| cyproconazole               | ESI +    | x          | 292                 | 70                | 46     | 33     | 10     | 14.76   |
| cyprodinil                  | ESI +    | x          | 226                 | 108               | 46     | 37     | 10     | 16.05   |
| cyprodinil                  | ESI +    |            | 226                 | 77                | 81     | 63     | 10     | 16.05   |
| cyprofluram                 | ESI +    | x          | 280                 | 69                | 81     | 23     | 12     | 14.29   |
| cyprofluram                 | ESI +    |            | 282                 | 69                | 81     | 27     | 10     | 14.28   |
| cyromazine                  | ESI +    | x          | 167                 | 60                | 56     | 29     | 10     | 3.24    |
| cyromazine                  | ESI +    |            | 167                 | 85                | 56     | 27     | 6      | 3.24    |
| daminozide                  | ESI +    |            | 161                 | 61                | 48     | 19     | 4      | 3.75    |
| daminozide                  | ESI +    | x          | 161                 | 143               | 48     | 17     | 12     | 3.75    |
| demeton                     | ESI +    | x          | 259                 | 61                | 11     | 45     | 4      | 14.53   |
| Analyte                      | ESI mode | Quant. ion [m/z] | Precur sor ion [m/z] | Produ ction [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-----------------------------|----------|------------------|----------------------|-------------------|--------|--------|--------|---------|
| demeton                     | ESI +    | 259              | 89                   | 11                | 15     | 6      |         | 14.53   |
| demeton-S-methyl            | ESI +    | 231              | 61                   | 26                | 45     | 12     |         | 13.25   |
| demeton-S-methyl            | ESI + x  | 231              | 61                   | 26                | 45     | 12     |         | 13.25   |
| demeton-S-methyl-sulfone    | ESI +    | 263              | 109                  | 91                | 37     | 6      |         | 11.64   |
| demeton-S-methyl-sulfone    | ESI + x  | 263              | 109                  | 91                | 37     | 6      |         | 11.65   |
| desmedipham                 | ESI +    | 318              | 154                  | 21                | 33     | 10     |         | 14.15   |
| desmedipham                 | ESI + x  | 318              | 154                  | 21                | 33     | 10     |         | 14.15   |
| desmetryn                   | ESI +    | 214              | 172                  | 66                | 25     | 12     |         | 13.47   |
| desmetryn                   | ESI + x  | 214              | 172                  | 66                | 25     | 12     |         | 13.46   |
| diazinon                    | ESI + x  | 305              | 169                  | 35                | 29     | 8      |         | 16.32   |
| diazinon                    | ESI +    | 305              | 169                  | 35                | 29     | 8      |         | 16.33   |
| dichlorvos                  | ESI + x  | 221              | 109                  | 101               | 25     | 13     |         | 12.58   |
| dichlorvos                  | ESI +    | 221              | 109                  | 101               | 25     | 13     |         | 12.58   |
| diclofop-butrazol           | ESI +    | 328              | 159                  | 56                | 51     | 10     |         | 15.25   |
| diclofop-butrazol           | ESI + x  | 328              | 159                  | 56                | 51     | 10     |         | 15.24   |
| diethofencarb               | ESI + x  | 268              | 180                  | 26                | 23     | 10     |         | 14.38   |
| diethofencarb               | ESI +    | 268              | 180                  | 26                | 23     | 10     |         | 14.38   |
| diethyltoluamide            | ESI + x  | 192              | 119                  | 61                | 27     | 8      |         | 14.01   |
| diethyltoluamide            | ESI +    | 192              | 119                  | 61                | 27     | 8      |         | 14.01   |
| difenoconazole              | ESI +    | 406              | 337                  | 41                | 24     | 10     |         | 17.60   |
| difenoconazole              | ESI + x  | 406              | 251                  | 55                | 37     | 14     |         | 17.59   |
| difenoxuron                  | ESI + x  | 287              | 123                  | 50                | 25     | 6      |         | 14.42   |
| difenoxuron                  | ESI +    | 287              | 123                  | 50                | 25     | 6      |         | 14.42   |
| diflubenzuron                | ESI +    | 311              | 141                  | 112               | 44     | 8      |         | 15.62   |
| diflubenzuron                | ESI + x  | 311              | 141                  | 112               | 44     | 8      |         | 15.63   |
| diflufenican                 | ESI + x  | 395              | 246                  | 66                | 49     | 6      |         | 17.01   |
| diflufenican                 | ESI +    | 395              | 246                  | 66                | 49     | 6      |         | 17.01   |
| dimefox                      | ESI + x  | 155              | 110                  | 38                | 25     | 8      |         | 11.72   |
| dimefox                      | ESI +    | 155              | 110                  | 38                | 25     | 8      |         | 11.73   |
| dimefuron                    | ESI + x  | 339              | 167                  | 75                | 29     | 8      |         | 14.29   |
| dimefuron                    | ESI +    | 339              | 167                  | 75                | 29     | 8      |         | 14.29   |
| dimethenamid                | ESI + x  | 276              | 168                  | 16                | 33     | 8      |         | 15.13   |
| dimethenamid                | ESI +    | 276              | 168                  | 16                | 33     | 8      |         | 15.13   |
| dimethoate                   | ESI +    | 230              | 125                  | 68                | 27     | 7      |         | 11.94   |
| dimethoate                   | ESI + x  | 230              | 125                  | 68                | 27     | 7      |         | 11.94   |
| dimethomorph                | ESI +    | 388              | 165                  | 51                | 49     | 10     |         | 16.24   |
| dimethomorph                | ESI + x  | 388              | 165                  | 51                | 49     | 10     |         | 16.23   |
| dimetilan                    | ESI +    | 241              | 196                  | 66                | 15     | 10     |         | 12.42   |
| dimetilan                    | ESI + x  | 241              | 196                  | 66                | 15     | 10     |         | 12.41   |
| dimoxystrobin               | ESI +    | 327              | 116                  | 21                | 21     | 12     |         | 16.35   |
| dimoxystrobin               | ESI + x  | 327              | 116                  | 21                | 21     | 12     |         | 16.35   |
| dinotefuran                  | ESI +    | 203              | 129                  | 51                | 17     | 8      |         | 11.28   |
| dinotefuran                  | ESI + x  | 203              | 129                  | 51                | 17     | 8      |         | 11.28   |
| disulfoton                   | ESI +    | 275              | 61                   | 41                | 43     | 12     |         | 16.77   |
| disulfoton                   | ESI + x  | 275              | 61                   | 41                | 43     | 12     |         | 16.78   |
| disulfoton-sulfone           | ESI +    | 307              | 115                  | 41                | 31     | 8      |         | 14.35   |
| disulfoton-sulfone           | ESI + x  | 307              | 115                  | 41                | 31     | 8      |         | 14.34   |
| Analyte                  | ESI mode | Quant. ion | Precursor ion [m/z] | Production ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-------------------------|----------|------------|---------------------|----------------------|--------|--------|---------|----------|
| disulfoton-sulfoxide    | ESI +    | 291        | 157                 | 21                   | 31     | 14     |        | 14.08    |
| disulfoton-sulfoxide    | ESI +    | 291        | 185                 | 21                   | 19     | 14     |        | 14.08    |
| diuron                  | ESI +    | 233        | 72                  | 66                   | 31     | 10     |        | 13.29    |
| diuron                  | ESI +    | 235        | 72                  | 41                   | 37     | 6      |        | 13.29    |
| dione                   | ESI +    | 228        | 43                  | 101                  | 49     | 6      |        | 2.54     |
| dione                   | ESI +    | 228        | 57                  | 101                  | 39     | 4      |        | 2.53     |
| emamectin B1a           | ESI +    | 887        | 158                 | 51                   | 49     | 4      |        | 18.48    |
| emamectin B1a           | ESI +    | 886        | 82                  | 96                   | 119    | 6      |        | 18.47    |
| emamectin B1b           | ESI +    | 873        | 158                 | 51                   | 49     | 14     |        | 18.30    |
| emamectin B1b           | ESI +    | 873        | 82                  | 116                  | 107    | 6      |        | 18.30    |
| epoxiconazole           | ESI +    | 330        | 101                 | 50                   | 63     | 4      |        | 16.07    |
| epoxiconazole           | ESI +    | 330        | 75                  | 21                   | 91     | 6      |        | 16.07    |
| ethiofencarb            | ESI +    | 226        | 107                 | 30                   | 21     | 4      |        | 13.31    |
| ethiofencarb            | ESI +    | 226        | 169                 | 31                   | 11     | 13     |        | 13.31    |
| ethiofencarb-sulfone    | ESI +    | 275        | 107                 | 25                   | 25     | 6      |        | 11.79    |
| ethiofencarb-sulfone    | ESI +    | 275        | 201                 | 36                   | 17     | 18     |        | 11.79    |
| ethiofencarb-sulfoxide  | ESI +    | 242        | 107                 | 55                   | 23     | 4      |        | 11.74    |
| ethiofencarb-sulfoxide  | ESI +    | 242        | 185                 | 51                   | 23     | 20     |        | 11.74    |
| ethiprole               | ESI +    | 397        | 255                 | 86                   | 51     | 20     |        | 14.24    |
| ethiprole               | ESI +    | 397        | 351                 | 86                   | 31     | 20     |        | 14.24    |
| ethofumesate            | ESI +    | 287        | 121                 | 51                   | 23     | 10     |        | 15.00    |
| ethofumesate            | ESI +    | 287        | 259                 | 51                   | 15     | 14     |        | 15.00    |
| ethofumesate-2-keto     | ESI +    | 257        | 149                 | 61                   | 31     | 4      |        | 13.20    |
| ethofumesate-2-keto     | ESI +    | 257        | 177                 | 61                   | 23     | 12     |        | 13.20    |
| ethoprophos             | ESI +    | 243        | 131                 | 36                   | 29     | 10     |        | 15.37    |
| ethoprophos             | ESI +    | 243        | 173                 | 36                   | 21     | 14     |        | 15.36    |
| etofenprox              | ESI +    | 394        | 107                 | 16                   | 53     | 10     |        | 19.31    |
| etofenprox              | ESI +    | 394        | 135                 | 26                   | 31     | 8      |        | 19.31    |
| etoxazole               | ESI +    | 361        | 113                 | 111                  | 83     | 22     |        | 18.11    |
| etoxazole               | ESI +    | 360        | 141                 | 80                   | 37     | 8      |        | 18.12    |
| famoxadone              | ESI +    | 392        | 238                 | 11                   | 25     | 14     |        | 17.20    |
| famoxadone              | ESI +    | 392        | 331                 | 11                   | 15     | 10     |        | 17.20    |
| fenamidone              | ESI +    | 312        | 236                 | 66                   | 21     | 16     |        | 15.03    |
| fenamidone              | ESI +    | 312        | 92                  | 66                   | 33     | 6      |        | 15.03    |
| fenamiphos              | ESI +    | 304        | 202                 | 46                   | 49     | 18     |        | 15.66    |
| fenamiphos              | ESI +    | 304        | 217                 | 46                   | 33     | 12     |        | 15.66    |
| fenamiphos-sulfone      | ESI +    | 336        | 107                 | 86                   | 81     | 10     |        | 13.37    |
| fenamiphos-sulfone      | ESI +    | 336        | 108                 | 86                   | 49     | 8      |        | 13.37    |
| fenamiphos-sulfone      | ESI +    | 320        | 108                 | 81                   | 55     | 8      |        | 13.20    |
| fenamiphos-sulfone      | ESI +    | 320        | 156                 | 81                   | 43     | 14     |        | 13.21    |
| fenaminol               | ESI +    | 331        | 139                 | 51                   | 51     | 12     |        | 15.45    |
| fenaminol               | ESI +    | 331        | 268                 | 61                   | 31     | 8      |        | 15.45    |
| fenazaquin              | ESI +    | 307        | 147                 | 41                   | 25     | 8      |        | 18.58    |
| fenazaquin              | ESI +    | 307        | 161                 | 65                   | 31     | 8      |        | 18.59    |
| fenbucazonole           | ESI +    | 337        | 125                 | 55                   | 37     | 6      |        | 16.31    |
| fenbucazonole           | ESI +    | 337        | 70                  | 61                   | 33     | 4      |        | 16.31    |
| fenhexamid              | ESI +    | 302        | 55                  | 66                   | 59     | 2      |        | 14.91    |
| Analyte                | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-----------------------|----------|------------|---------------------|-------------------|--------|--------|--------|---------|
| fenhexamid            | ESI +    | x          | 302                 | 97                | 100    | 33     | 4      | 14.90   |
| fenobucarb            | ESI +    | x          | 208                 | 152               | 31     | 13     | 10     | 13.82   |
| fenobucarb            | ESI +    |            | 208                 | 95                | 51     | 21     | 8      | 13.82   |
| fenoxaprop-P-ethyl    | ESI +    |            | 362                 | 121               | 56     | 37     | 10     | 17.69   |
| fenoxaprop-P-ethyl    | ESI +    | x          | 362                 | 288               | 60     | 23     | 16     | 17.70   |
| fenoxycarb            | ESI +    | x          | 302                 | 116               | 81     | 17     | 6      | 16.22   |
| fenoxycarb            | ESI +    |            | 302                 | 88                | 80     | 29     | 4      | 16.22   |
| fenpiclonil           | ESI +    | x          | 237                 | 202               | 26     | 31     | 14     | 14.07   |
| fenpiclonil           | ESI +    |            | 254                 | 202               | 16     | 35     | 10     | 14.06   |
| fenpropidin           | ESI +    |            | 274                 | 147               | 65     | 37     | 8      | 15.86   |
| fenpropidin           | ESI +    | x          | 274                 | 117               | 66     | 75     | 8      | 15.86   |
| fenpropimorph         | ESI +    |            | 304                 | 117               | 81     | 71     | 6      | 16.95   |
| fenpropimorph         | ESI +    | x          | 304                 | 147               | 60     | 39     | 8      | 16.95   |
| fenpyroximate         | ESI +    |            | 422                 | 135               | 16     | 41     | 6      | 18.83   |
| fenpyroximate         | ESI +    | x          | 422                 | 366               | 26     | 23     | 20     | 18.83   |
| fensulfothion         | ESI +    |            | 309                 | 253               | 76     | 23     | 26     | 14.75   |
| fensulfothion         | ESI +    | x          | 309                 | 281               | 76     | 19     | 30     | 14.75   |
| fensulfothion-PO-sulfone | ESI +    | x       | 309                 | 253               | 81     | 25     | 18     | 12.88   |
| fensulfothion-PO-sulfone | ESI +    |       | 309                 | 281               | 81     | 19     | 30     | 12.87   |
| fensulfothion-PO-sulfoxide | ESI +    |       | 293                 | 115               | 61     | 35     | 22     | 14.21   |
| fensulfothion-PO-sulfoxide | ESI +    | x     | 293                 | 97                | 61     | 51     | 18     | 14.22   |
| fensulfothion-PS-sulfone | ESI +    |      | 325                 | 191               | 61     | 33     | 12     | 14.98   |
| fensulfothion-PS-sulfone | ESI +    | x       | 325                 | 269               | 61     | 23     | 16     | 14.98   |
| fenthion              | ESI +    | x          | 279                 | 169               | 76     | 25     | 18     | 16.71   |
| fenthion              | ESI +    |            | 279                 | 247               | 71     | 25     | 18     | 16.71   |
| fenthion-oxon         | ESI +    | x          | 263                 | 216               | 71     | 29     | 16     | 14.72   |
| fenthion-oxon         | ESI +    |            | 263                 | 231               | 71     | 21     | 18     | 14.72   |
| fenthion-PO-sulfone   | ESI +    |            | 312                 | 295               | 16     | 15     | 8      | 12.47   |
| fenthion-PO-sulfone   | ESI +    | x          | 312                 | 104               | 16     | 41     | 6      | 12.47   |
| fenthion-PO-sulfoxide | ESI +    | x          | 279                 | 104               | 66     | 41     | 6      | 12.33   |
| fenthion-PO-sulfoxide | ESI +    |            | 279                 | 264               | 61     | 27     | 18     | 12.33   |
| fenthion-PS-sulfone   | ESI +    | x          | 311                 | 109               | 91     | 39     | 6      | 14.44   |
| fenthion-PS-sulfone   | ESI +    |            | 311                 | 125               | 91     | 31     | 8      | 14.44   |
| fenthion-PS-sulfoxide | ESI +    |            | 295                 | 109               | 86     | 47     | 6      | 14.25   |
| fenthion-PS-sulfoxide | ESI +    | x          | 295                 | 280               | 86     | 25     | 20     | 14.25   |
| fenuron               | ESI +    |            | 165                 | 120               | 21     | 23     | 10     | 11.83   |
| fenuron               | ESI +    | x          | 165                 | 72                | 35     | 27     | 10     | 11.84   |
| flazasulfuron         | ESI +    | x          | 408                 | 182               | 55     | 25     | 10     | 14.19   |
| flazasulfuron         | ESI +    |            | 408                 | 83                | 41     | 65     | 10     | 14.19   |
| flonicamid            | ESI +    | x          | 230                 | 148               | 61     | 37     | 10     | 11.43   |
| flonicamid            | ESI +    |            | 230                 | 203               | 61     | 25     | 12     | 11.44   |
| florasulam            | ESI +    | x          | 360                 | 129               | 85     | 29     | 6      | 13.00   |
| florasulam            | ESI +    |            | 377                 | 129               | 51     | 35     | 12     | 13.00   |
| fluazifop-P-butyl     | ESI +    |            | 384                 | 282               | 65     | 27     | 16     | 17.49   |
| fluazifop-P-butyl     | ESI +    | x          | 384                 | 328               | 61     | 21     | 16     | 17.50   |
| fluazuron             | ESI +    | x          | 506                 | 349               | 61     | 31     | 10     | 17.88   |
| fluazuron             | ESI +    |            | 508                 | 351               | 66     | 31     | 10     | 17.88   |
| Analyte               | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|----------------------|----------|------------|---------------------|-------------------|--------|--------|--------|----------|
| flucycoxuron         | ESI +    | 484        | 132                 | 71                | 47     | 22     |        | 18.50    |
| flucycoxuron         | ESI + x   | 484        | 289                 | 31                | 17     | 10     |        | 18.50    |
| fludioxonil          | ESI +    | 266        | 158                 | 56                | 46     | 8      |        | 14.30    |
| fludioxonil          | ESI + x   | 266        | 229                 | 56                | 19     | 8      |        | 14.30    |
| flufenacet           | ESI +    | 364        | 152                 | 31                | 27     | 8      |        | 15.84    |
| flufenacet           | ESI + x   | 364        | 194                 | 25                | 17     | 10     |        | 15.84    |
| fluoxenuron          | ESI +    | 489        | 141                 | 106               | 57     | 6      |        | 17.92    |
| fluoxenuron          | ESI + x   | 489        | 158                 | 100               | 27     | 8      |        | 17.92    |
| fluometuron          | ESI +    | 233        | 160                 | 36                | 37     | 8      |        | 12.80    |
| fluometuron          | ESI + x   | 233        | 72                  | 46                | 37     | 4      |        | 12.80    |
| fluopicolide         | ESI + x   | 383        | 173                 | 71                | 31     | 14     |        | 15.29    |
| fluopicolide         | ESI +    | 385        | 175                 | 36                | 35     | 14     |        | 15.28    |
| furochloridone       | ESI + x   | 312        | 292                 | 61                | 31     | 8      |        | 15.51    |
| furochloridone       | ESI +    | 312        | 89                  | 71                | 37     | 8      |        | 15.51    |
| flurprimidol         | ESI + x   | 313        | 269                 | 86                | 49     | 14     |        | 14.24    |
| flurprimidol         | ESI +    | 313        | 270                 | 86                | 33     | 16     |        | 14.25    |
| flusilazole          | ESI +    | 316        | 165                 | 71                | 41     | 28     |        | 16.12    |
| flusilazole          | ESI + x   | 316        | 247                 | 50                | 25     | 14     |        | 16.12    |
| flutiafol            | ESI +    | 302        | 109                 | 41                | 43     | 10     |        | 13.69    |
| flutiafol            | ESI + x   | 302        | 123                 | 55                | 39     | 6      |        | 13.69    |
| formetanate          | ESI +    | 222        | 65                  | 46                | 63     | 12     |        | 3.15     |
| formetanate          | ESI + x   | 222        | 165                 | 21                | 23     | 10     |        | 3.16     |
| fosthiazate          | ESI +    | 284        | 104                 | 75                | 27     | 4      |        | 13.89    |
| fosthiazate          | ESI + x   | 284        | 228                 | 81                | 15     | 12     |        | 13.89    |
| fuberidazole         | ESI + x   | 185        | 157                 | 40                | 31     | 8      |        | 12.53    |
| fuberidazole         | ESI +    | 185        | 65                  | 26                | 59     | 4      |        | 12.53    |
| furathicarb          | ESI +    | 383        | 195                 | 65                | 23     | 10     |        | 17.97    |
| furathicarb          | ESI + x   | 383        | 252                 | 46                | 19     | 12     |        | 17.97    |
| halofoxenozide       | ESI + x   | 331        | 275                 | 15                | 11     | 10     |        | 14.27    |
| halofoxenozide       | ESI +    | 331        | 105                 | 11                | 23     | 8      |        | 14.28    |
| haloxyfop            | ESI + x   | 362        | 288                 | 105               | 35     | 11     |        | 13.60    |
| haloxyfop            | ESI +    | 362        | 316                 | 105               | 24     | 11     |        | 13.60    |
| haloxyfop-2-ethoxyethyl | ESI +    | 434        | 288                 | 81                | 35     | 12     |        | 17.52    |
| haloxyfop-2-ethoxyethyl | ESI + x   | 434        | 316                 | 81                | 25     | 12     |        | 17.52    |
| haloxyfop-methyl     | ESI +    | 376        | 288                 | 86                | 33     | 12     |        | 16.98    |
| haloxyfop-methyl     | ESI + x   | 376        | 316                 | 100               | 23     | 18     |        | 16.98    |
| hexaconazole         | ESI +    | 314        | 70                   | 35                | 48     | 11     |        | 15.52    |
| hexaconazole         | ESI + x   | 316        | 70                   | 35                | 50     | 8      |        | 15.51    |
| hexaflumuron         | ESI +    | 478        | 141                 | 53                | 62     | 6      |        | 17.10    |
| hexaflumuron         | ESI + x   | 478        | 158                 | 53                | 29     | 6      |        | 17.10    |
| hexazinone           | ESI + x   | 253        | 171                 | 30                | 21     | 8      |        | 13.57    |
| hexazinone           | ESI +    | 253        | 71                   | 71                | 47     | 12     |        | 13.57    |
| hexythiazox          | ESI +    | 353        | 168                 | 56                | 33     | 10     |        | 18.21    |
| hexythiazox          | ESI + x   | 353        | 228                 | 26                | 23     | 6      |        | 18.21    |
| imazalil             | ESI + x   | 297        | 159                 | 41                | 31     | 10     |        | 16.26    |
| imazalil             | ESI +    | 297        | 201                 | 86                | 25     | 18     |        | 16.26    |
| imibenconazole       | ESI + x   | 411        | 125                 | 36                | 47     | 10     |        | 17.96    |
| Analyte                     | ESI mode | Quant. ion | Precursor ion [m/z] | Produ Ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|----------------------------|----------|------------|---------------------|-----------------|--------|--------|--------|---------|
| imibenconazole             | ESI +    | 413        | 125                 | 36              | 39     | 10     | 17.95  |
| imidacloprid               | ESI +    | 256        | 175                 | 85              | 27     | 9      | 12.18  |
| imidacloprid               | ESI + x  | 256        | 209                 | 85              | 22     | 10     | 12.17  |
| indoxacarb                 | ESI +    | 528        | 203                 | 76              | 51     | 15     | 17.76  |
| indoxacarb                 | ESI + x  | 528        | 56                  | 76              | 55     | 10     | 17.76  |
| iodosulfuron-methyl        | ESI +    | 508        | 141                 | 41              | 35     | 14     | 13.32  |
| iodosulfuron-methyl        | ESI + x  | 508        | 167                 | 50              | 27     | 8      | 13.31  |
| iprovalicarb               | ESI + x  | 321        | 119                 | 60              | 23     | 6      | 14.85  |
| iprovalicarb               | ESI +    | 321        | 203                 | 71              | 13     | 10     | 14.85  |
| isopropcarb                | ESI +    | 194        | 152                 | 51              | 13     | 12     | 13.18  |
| isopropcarb                | ESI + x  | 194        | 95                  | 27              | 22     | 12     | 13.18  |
| isoprotiolane              | ESI + x  | 291        | 189                 | 31              | 31     | 14     | 15.73  |
| isoprotiolane              | ESI +    | 291        | 231                 | 31              | 17     | 16     | 15.73  |
| isoproturon                | ESI +    | 207        | 165                 | 60              | 19     | 10     | 13.38  |
| isoproturon                | ESI + x  | 207        | 72                  | 44              | 25     | 10     | 13.38  |
| isoxaben                   | ESI + x  | 333        | 150                 | 41              | 55     | 10     | 15.76  |
| isoxaben                   | ESI +    | 333        | 165                 | 41              | 25     | 12     | 15.76  |
| isoxaflutole               | ESI + x  | 360        | 251                 | 81              | 21     | 24     | 14.94  |
| isoxaflutole               | ESI +    | 377        | 360                 | 26              | 13     | 12     | 14.94  |
| isoxathion                 | ESI + x  | 314        | 105                 | 46              | 21     | 12     | 17.16  |
| isoxathion                 | ESI +    | 314        | 170                 | 41              | 19     | 12     | 17.16  |
| lenacil                    | ESI + x  | 235        | 153                 | 70              | 21     | 8      | 13.61  |
| lenacil                    | ESI +    | 235        | 82                  | 26              | 49     | 14     | 13.61  |
| linuron                    | ESI + x  | 249        | 160                 | 80              | 23     | 8      | 13.98  |
| linuron                    | ESI +    | 249        | 182                 | 91              | 21     | 8      | 13.98  |
| lufenuron                  | ESI +    | 511        | 158                 | 55              | 27     | 8      | 17.39  |
| lufenuron                  | ESI + x  | 513        | 158                 | 71              | 29     | 14     | 17.39  |
| malaoxon                   | ESI + x  | 315        | 127                 | 61              | 19     | 8      | 13.42  |
| malaoxon                   | ESI +    | 315        | 99                  | 61              | 37     | 16     | 13.42  |
| malathion                  | ESI + x  | 331        | 285                 | 41              | 11     | 8      | 15.65  |
| malathion                  | ESI +    | 331        | 127                 | 25              | 17     | 6      | 15.64  |
| mandipropamid              | ESI +    | 412        | 328                 | 61              | 21     | 10     | 16.00  |
| mandipropamid              | ESI + x  | 412        | 356                 | 61              | 15     | 10     | 16.00  |
| mepanipyrim                | ESI + x  | 224        | 106                 | 38              | 37     | 8      | 15.54  |
| mepanipyrim                | ESI +    | 224        | 77                  | 51              | 49     | 4      | 15.54  |
| metalaxyl                  | ESI + x  | 280        | 160                 | 71              | 31     | 8      | 14.48  |
| metalaxyl                  | ESI +    | 280        | 220                 | 66              | 19     | 12     | 14.48  |
| metamitron                 | ESI +    | 203        | 104                 | 56              | 29     | 12     | 12.09  |
| metamitron                 | ESI + x  | 203        | 175                 | 60              | 29     | 12     | 12.10  |
| metazachlor                | ESI +    | 278        | 134                 | 26              | 27     | 10     | 14.34  |
| metazachlor                | ESI + x  | 278        | 210                 | 21              | 16     | 12     | 14.34  |
| metconazole                | ESI +    | 320        | 70                  | 31              | 45     | 6      | 15.96  |
| metconazole                | ESI + x  | 322        | 70                  | 36              | 49     | 6      | 15.96  |
| methabenzthiazuron         | ESI + x  | 222        | 150                 | 51              | 51     | 10     | 13.94  |
| methabenzthiazuron         | ESI +    | 222        | 165                 | 25              | 23     | 8      | 13.94  |
| methacrifos                | ESI +    | 241        | 125                 | 26              | 27     | 6      | 14.34  |
| methacrifos                | ESI + x  | 241        | 209                 | 26              | 11     | 12     | 14.34  |
| Analyte                  | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-------------------------|----------|------------|---------------------|-------------------|--------|--------|--------|---------|
| methamidophos           | ESI +    |            | 142                 | 125               | 66     | 17     | 10     | 11.00   |
| methamidophos           | ESI + x  |            | 142                 | 94                | 51     | 21     | 8      | 11.00   |
| methidathion            | ESI + x  |            | 303                 | 145               | 21     | 13     | 10     | 15.19   |
| methidathion            | ESI +    |            | 303                 | 85                | 26     | 27     | 10     | 15.19   |
| methiocarb              | ESI +    |            | 226                 | 121               | 31     | 27     | 2      | 14.48   |
| methiocarb              | ESI + x  |            | 226                 | 169               | 31     | 15     | 4      | 14.46   |
| methiocarb-sulfone      | ESI +    |            | 275                 | 258               | 21     | 13     | 14     | 12.33   |
| methiocarb-sulfone      | ESI + x  |            | 275                 | 201               | 21     | 19     | 16     | 12.33   |
| methiocarb-sulfoxide    | ESI + x  |            | 242                 | 107               | 36     | 59     | 18     | 11.73   |
| methiocarb-sulfoxide    | ESI +    |            | 242                 | 185               | 36     | 19     | 16     | 11.74   |
| metholachlor            | ESI +    |            | 284                 | 252               | 30     | 19     | 14     | 16.00   |
| metholachlor            | ESI + x  |            | 286                 | 254               | 16     | 19     | 12     | 16.00   |
| methomyl                | ESI + x  |            | 163                 | 106               | 11     | 15     | 2      | 11.63   |
| methomyl                | ESI +    |            | 163                 | 88                | 45     | 13     | 6      | 11.64   |
| methoprotryn            | ESI + x  |            | 272                 | 198               | 46     | 33     | 12     | 14.43   |
| methoxyfenozone         | ESI + x  |            | 272                 | 240               | 46     | 27     | 18     | 14.43   |
| methoxyfenozone         | ESI +    |            | 369                 | 133               | 41     | 31     | 10     | 15.43   |
| metaboluron             | ESI + x  |            | 259                 | 170               | 70     | 25     | 8      | 13.29   |
| metaboluron             | ESI +    |            | 261                 | 172               | 51     | 25     | 12     | 13.28   |
| metolcarb               | ESI + x  |            | 166                 | 109               | 75     | 17     | 6      | 12.41   |
| metolcarb               | ESI +    |            | 166                 | 94                | 26     | 35     | 18     | 12.42   |
| metoxuron               | ESI + x  |            | 229                 | 156               | 40     | 31     | 8      | 12.43   |
| metoxuron               | ESI +    |            | 229                 | 72                | 21     | 35     | 6      | 12.43   |
| metrafenone             | ESI + x  |            | 409                 | 209               | 26     | 21     | 16     | 17.51   |
| metrafenone             | ESI +    |            | 409                 | 227               | 26     | 31     | 18     | 17.51   |
| metribuzin              | ESI +    |            | 215                 | 187               | 45     | 25     | 10     | 12.88   |
| metribuzin              | ESI + x  |            | 215                 | 84                | 31     | 29     | 6      | 12.88   |
| metsulfuron-methyl      | ESI + x  |            | 382                 | 167               | 36     | 21     | 12     | 12.64   |
| metsulfuron-methyl      | ESI +    |            | 382                 | 199               | 45     | 27     | 10     | 12.64   |
| molinate                | ESI + x  |            | 188                 | 126               | 21     | 19     | 8      | 14.98   |
| molinate                | ESI +    |            | 188                 | 83                | 21     | 25     | 8      | 14.98   |
| monocrotophos           | ESI + x  |            | 224                 | 193               | 26     | 11     | 12     | 11.44   |
| monocrotophos           | ESI +    |            | 224                 | 98                | 46     | 17     | 12     | 11.44   |
| monolinuron             | ESI +    |            | 215                 | 126               | 75     | 25     | 6      | 13.01   |
| monolinuron             | ESI + x  |            | 215                 | 148               | 56     | 19     | 8      | 13.01   |
| monuron                 | ESI + x  |            | 199                 | 126               | 26     | 35     | 10     | 12.42   |
| monuron                 | ESI +    |            | 199                 | 72                | 45     | 29     | 4      | 12.43   |
| napropamide             | ESI +    |            | 272                 | 129               | 45     | 21     | 6      | 16.25   |
| napropamide             | ESI + x  |            | 272                 | 171               | 66     | 29     | 12     | 16.25   |
| neburon                 | ESI + x  |            | 275                 | 114               | 36     | 21     | 10     | 15.10   |
| neburon                 | ESI +    |            | 277                 | 88                | 126    | 25     | 14     | 15.10   |
|nicosulfuron             | ESI +    |            | 411                 | 182               | 61     | 28     | 14     | 13.29   |
|nicosulfuron             | ESI + x  |            | 411                 | 213               | 61     | 23     | 14     | 13.29   |
|novaluron                | ESI + x  |            | 493                 | 141               | 66     | 69     | 12     | 16.82   |
|novaluron                | ESI +    |            | 493                 | 158               | 66     | 27     | 18     | 16.82   |
|nuarimol                 | ESI +    |            | 315                 | 139               | 36     | 51     | 10     | 14.64   |
| Analyte                          | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|---------------------------------|----------|------------|---------------------|-------------------|--------|--------|---------|---------|
| nuarimol                        | ESI +    | x          | 315                 | 252               | 50     | 31     | 10      | 14.64   |
| ofurace                         | ESI +    |            | 282                 | 160               | 46     | 29     | 8       | 14.52   |
| ofurace                         | ESI +    | x          | 282                 | 254               | 55     | 17     | 14      | 14.52   |
| omethoate                       | ESI +    | x          | 214                 | 125               | 46     | 29     | 10      | 11.01   |
| omethoate                       | ESI +    |            | 214                 | 183               | 60     | 16     | 13      | 11.01   |
| orbencarb                       | ESI +    | x          | 258                 | 100               | 41     | 19     | 10      | 16.65   |
| orbencarb                       | ESI +    |            | 260                 | 100               | 36     | 21     | 16      | 16.65   |
| oxadixyl                        | ESI +    |            | 296                 | 132               | 6      | 47     | 10      | 13.63   |
| oxadixyl                        | ESI +    | x          | 296                 | 219               | 6      | 21     | 14      | 13.62   |
| oxamyl                          | ESI +    | x          | 237                 | 72                | 15     | 21     | 10      | 11.51   |
| oxamyl                          | ESI +    |            | 237                 | 90                | 21     | 13     | 4       | 11.51   |
| oxamyl-oxime                    | ESI +    |            | 163                 | 72                | 26     | 17     | 4       | 11.27   |
| oxamyl-oxime                    | ESI +    | x          | 163                 | 90                | 26     | 23     | 4       | 11.27   |
| oxydemeton-methyl               | ESI +    |            | 247                 | 109               | 61     | 35     | 6       | 11.35   |
| oxydemeton-methyl               | ESI +    | x          | 247                 | 169               | 31     | 21     | 14      | 11.35   |
| paclobutrazol                   | ESI +    |            | 294                 | 125               | 21     | 49     | 6       | 14.31   |
| paclobutrazol                   | ESI +    | x          | 294                 | 70                | 50     | 39     | 10      | 14.30   |
| paraoxon-ethyl                  | ESI +    | x          | 276                 | 220               | 56     | 21     | 16      | 14.15   |
| paraoxon-ethyl                  | ESI +    |            | 276                 | 248               | 56     | 15     | 18      | 14.15   |
| paraoxon-methyl                 | ESI +    |            | 248                 | 109               | 51     | 35     | 10      | 12.95   |
| paraoxon-methyl                 | ESI +    | x          | 248                 | 202               | 56     | 25     | 10      | 12.95   |
| penconazole                     | ESI +    | x          | 284                 | 159               | 55     | 39     | 8       | 15.74   |
| penconazole                     | ESI +    |            | 284                 | 70                | 41     | 29     | 12      | 15.73   |
| pencycuron                      | ESI +    | x          | 329                 | 125               | 55     | 33     | 6       | 16.93   |
| pencycuron                      | ESI +    |            | 329                 | 89                | 46     | 75     | 10      | 16.93   |
| pendimethalin                   | ESI +    | x          | 282                 | 194               | 26     | 23     | 10      | 18.21   |
| pendimethalin                   | ESI +    |            | 282                 | 212               | 10     | 15     | 10      | 18.21   |
| pentanochlor                    | ESI +    | x          | 240                 | 142               | 41     | 25     | 10      | 14.92   |
| pentanochlor                    | ESI +    |            | 240                 | 43                | 51     | 47     | 12      | 14.93   |
| phenmedipham                    | ESI +    | x          | 301                 | 136               | 56     | 25     | 10      | 14.27   |
| phenmedipham                    | ESI +    |            | 301                 | 168               | 56     | 15     | 8       | 14.27   |
| phorate                         | ESI +    |            | 261                 | 47                | 16     | 47     | 4       | 16.48   |
| phorate                         | ESI +    | x          | 261                 | 75                | 16     | 17     | 6       | 16.48   |
| phorate-sulfone                 | ESI +    | x          | 293                 | 171               | 61     | 17     | 12      | 14.20   |
| phorate-sulfone                 | ESI +    |            | 293                 | 97                | 61     | 49     | 18      | 14.20   |
| phorat-sulfoxide                | ESI +    | x          | 277                 | 143               | 51     | 25     | 10      | 13.96   |
| phorat-sulfoxide                | ESI +    |            | 277                 | 199               | 51     | 15     | 10      | 13.95   |
| phosmet                         | ESI +    |            | 318                 | 133               | 31     | 49     | 10      | 15.94   |
| phosmet                         | ESI +    | x          | 318                 | 160               | 50     | 19     | 14      | 15.94   |
| phosphamidon                    | ESI +    |            | 300                 | 127               | 36     | 27     | 10      | 12.90   |
| phosphamidon                    | ESI +    | x          | 300                 | 227               | 71     | 19     | 18      | 12.90   |
| phoxim                          | ESI +    | x          | 299                 | 125               | 42     | 15     | 12      | 17.05   |
| phoxim                          | ESI +    |            | 299                 | 129               | 42     | 17     | 6       | 17.05   |
| picoxyystrobin                  | ESI +    | x          | 368                 | 145               | 50     | 27     | 8       | 16.61   |
| picoxyystrobin                  | ESI +    |            | 368                 | 205               | 41     | 15     | 12      | 16.62   |
| piperonyl butoxide              | ESI +    | x          | 356                 | 149               | 26     | 49     | 12      | 17.68   |
| piperonyl butoxide              | ESI +    |            | 356                 | 177               | 26     | 23     | 12      | 17.68   |
| Analyte            | ESI mode | Quant. ion [m/z] | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|--------------------|----------|-----------------|---------------------|-------------------|---------|--------|---------|----------|
| pirimicarb         | ESI +    | 239             | 182                 | 16                | 21      | 12     | 19.07   | 14.00    |
| pirimicarb         | ESI + x  | 239             | 72                  | 30                | 31      | 10     | 17.75   | 14.01    |
| pirimicarb-desmethyl | ESI +    | 225             | 168                 | 16                | 19      | 8      | 12.70   | 12.70    |
| pirimicarb-desmethyl | ESI + x  | 225             | 72                  | 25                | 25      | 10     | 12.71   | 12.71    |
| pirimicarb-desmethylformamido | ESI + | 253             | 225                 | 16                | 15      | 10     | 13.92   | 13.92    |
| pirimicarb-desmethylformamido | ESI + x | 253             | 56                  | 31                | 65      | 4      | 13.92   | 13.92    |
| primisulfuron-methyl | ESI +    | 469             | 199                 | 71                | 25      | 10     | 14.24   | 14.24    |
| primisulfuron-methyl | ESI + x  | 469             | 254                 | 85                | 25      | 12     | 14.24   | 14.24    |
| prochloraz         | ESI +    | 376             | 266                 | 31                | 23      | 18     | 17.30   | 17.30    |
| prochloraz         | ESI + x  | 376             | 308                 | 30                | 17      | 16     | 17.30   | 17.30    |
| promecarb          | ESI +    | 208             | 109                 | 25                | 21      | 6      | 14.29   | 14.29    |
| promecarb          | ESI + x  | 208             | 151                 | 56                | 13      | 14     | 14.29   | 14.29    |
| prometon           | ESI +    | 226             | 142                 | 35                | 29      | 8      | 13.80   | 13.80    |
| prometon           | ESI + x  | 226             | 184                 | 41                | 27      | 16     | 13.81   | 13.81    |
| prometryn          | ESI +    | 242             | 158                 | 51                | 35      | 14     | 14.84   | 14.84    |
| prometryn          | ESI + x  | 242             | 200                 | 36                | 29      | 16     | 14.84   | 14.84    |
| propamocarb        | ESI +    | 189             | 102                 | 30                | 23      | 4      | 3.65    | 3.65     |
| propamocarb        | ESI + x  | 189             | 74                  | 26                | 33      | 14     | 3.64    | 3.64     |
| propargite         | ESI +    | 368             | 175                 | 21                | 23      | 14     | 18.13   | 18.13    |
| propargite         | ESI + x  | 368             | 231                 | 21                | 15      | 14     | 18.13   | 18.13    |
| propazine          | ESI +    | 230             | 146                 | 45                | 29      | 8      | 13.84   | 13.84    |
| propazine          | ESI + x  | 230             | 188                 | 51                | 25      | 12     | 13.84   | 13.84    |
| propanthion        | ESI +    | 180             | 120                 | 11                | 25      | 12     | 13.09   | 13.09    |
| propanthion        | ESI + x  | 180             | 138                 | 30                | 13      | 8      | 13.09   | 13.09    |
| propiconazole      | ESI +    | 342             | 159                 | 40                | 33      | 8      | 16.63   | 16.63    |
| propiconazole      | ESI + x  | 342             | 161                 | 36                | 47      | 14     | 16.64   | 16.64    |
| propoxycurbazone   | ESI +    | 416             | 160                 | 25                | 41      | 6      | 12.03   | 12.03    |
| propoxycurbazone   | ESI + x  | 416             | 199                 | 11                | 27      | 12     | 12.03   | 12.03    |
| proquinoxazid      | ESI +    | 373             | 289                 | 31                | 35      | 8      | 18.19   | 18.19    |
| proquinoxazid      | ESI + x  | 373             | 331                 | 31                | 21      | 10     | 18.19   | 18.19    |
| prosulfolcarb      | ESI +    | 252             | 128                 | 61                | 23      | 14     | 17.02   | 17.02    |
| prosulfolcarb      | ESI + x  | 252             | 91                  | 55                | 30      | 12     | 17.01   | 17.01    |
| prosulfuron        | ESI +    | 420             | 141                 | 70                | 27      | 6      | 13.57   | 13.57    |
| prosulfuron        | ESI + x  | 420             | 167                 | 61                | 25      | 10     | 13.57   | 13.57    |
| pymetrozine        | ESI +    | 218             | 105                 | 46                | 31      | 8      | 11.47   | 11.47    |
| pymetrozine        | ESI + x  | 218             | 79                  | 51                | 47      | 12     | 11.47   | 11.47    |
| pyraclostrobin     | ESI +    | 388             | 164                 | 50                | 27      | 10     | 17.58   | 17.58    |
| pyraclostrobin     | ESI + x  | 388             | 194                 | 20                | 19      | 10     | 17.58   | 17.58    |
| pyrafufen-ethyl    | ESI +    | 413             | 261                 | 51                | 45      | 16     | 16.74   | 16.74    |
| pyrafufen-ethyl    | ESI + x  | 413             | 339                 | 51                | 29      | 10     | 16.74   | 16.74    |
| pyrethrin I        | ESI +    | 329             | 133                 | 41                | 23      | 12     | 18.09   | 18.09    |
| pyrethrin I        | ESI + x  | 329             | 161                 | 41                | 13      | 14     | 18.09   | 18.09    |
| pyrethrin II       | ESI +    | 373             | 161                 | 41                | 15      | 14     | 17.75   | 17.75    |
| pyrethrin II       | ESI + x  | 390             | 161                 | 56                | 19      | 8      | 17.75   | 17.75    |
| pyridate           | ESI +    | 379             | 207                 | 20                | 21      | 10     | 19.07   | 19.07    |
| Analyte                                      | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|----------------------------------------------|----------|------------|---------------------|-------------------|--------|--------|--------|---------|
| pyridate                                     | ESI +    | 381        | 209                 | 6                 | 21     | 10     |        | 19.07   |
| pyridate-metabol (6-chloro-3-phenylpyridazin-4-ol) | ESI +    | 207        | 104                 | 66                | 31     | 12     |        | 12.04   |
| pyridate-metabol (6-chloro-3-phenylpyridazin-4-ol) | ESI +    | 207        | 77                  | 66                | 43     | 12     |        | 12.04   |
| pyrimethanil                                 | ESI +    | 200        | 107                 | 46                | 33     | 6      |        | 14.48   |
| pyrimethanil                                 | ESI +    | 200        | 82                  | 61                | 35     | 16     |        | 14.47   |
| pyrimidifen                                  | ESI +    | 378        | 184                 | 46                | 33     | 16     |        | 17.90   |
| pyrimidifen                                  | ESI +    | 380        | 186                 | 41                | 33     | 16     |        | 17.90   |
| pyriproxyfen                                 | ESI +    | 322        | 185                 | 26                | 29     | 16     |        | 18.02   |
| pyriproxyfen                                 | ESI +    | 322        | 96                  | 30                | 21     | 4      |        | 18.01   |
| quizalofop-ethyl                              | ESI +    | 373        | 299                 | 85                | 25     | 16     |        | 17.93   |
| quizalofop-ethyl                              | ESI +    | 375        | 301                 | 61                | 29     | 10     |        | 17.93   |
| rabenzazole                                  | ESI +    | 213        | 157                 | 62                | 42     | 10     |        | 13.51   |
| rabenzazole                                  | ESI +    | 213        | 172                 | 62                | 31     | 10     |        | 13.51   |
| rimsulfuron                                  | ESI +    | 432        | 182                 | 50                | 29     | 8      |        | 13.70   |
| rimsulfuron                                  | ESI +    | 432        | 325                 | 50                | 21     | 15     |        | 13.71   |
| rotenone                                     | ESI +    | 395        | 192                 | 71                | 31     | 18     |        | 18.24   |
| rotenone                                     | ESI +    | 395        | 213                 | 51                | 33     | 18     |        | 18.24   |
| sebuthylazine                                 | ESI +    | 230        | 132                 | 61                | 31     | 8      |        | 13.81   |
| sebuthylazine                                 | ESI +    | 230        | 174                 | 35                | 25     | 8      |        | 13.81   |
| sethoxydim                                   | ESI +    | 328        | 178                 | 26                | 29     | 6      |        | 16.92   |
| sethoxydim                                   | ESI +    | 328        | 282                 | 30                | 17     | 16     |        | 16.92   |
| silafluofen                                   | ESI +    | 426        | 168                 | 11                | 47     | 16     |        | 19.72   |
| silafluofen                                   | ESI +    | 426        | 287                 | 11                | 15     | 22     |        | 19.72   |
| simazine                                     | ESI +    | 202        | 124                 | 26                | 25     | 12     |        | 12.61   |
| simazine                                     | ESI +    | 202        | 132                 | 46                | 29     | 12     |        | 12.61   |
| simazine-desethyl                             | ESI +    | 174        | 146                 | 41                | 30     | 10     |        | 11.56   |
| simazine-desethyl                             | ESI +    | 174        | 68                  | 41                | 41     | 6      |        | 11.55   |
| simeconazole                                  | ESI +    | 294        | 135                 | 31                | 31     | 10     |        | 14.55   |
| simeconazole                                  | ESI +    | 294        | 70                  | 31                | 35     | 12     |        | 14.55   |
| spinosyn A                                    | ESI +    | 733        | 142                 | 65                | 37     | 8      |        | 18.80   |
| spinosyn A                                    | ESI +    | 733        | 98                  | 66                | 75     | 4      |        | 18.80   |
| spinosyn D                                    | ESI +    | 747        | 142                 | 80                | 39     | 8      |        | 19.16   |
| spinosyn D                                    | ESI +    | 747        | 98                  | 76                | 79     | 6      |        | 19.16   |
| spirodiclofen                                 | ESI +    | 411        | 313                 | 61                | 17     | 10     |        | 18.38   |
| spirodiclofen                                 | ESI +    | 411        | 71                  | 36                | 30     | 10     |        | 18.38   |
| spiromesifen                                  | ESI +    | 273        | 187                 | 66                | 25     | 12     |        | 18.14   |
| spiromesifen                                  | ESI +    | 273        | 255                 | 66                | 21     | 8      |        | 18.14   |
| spirotetramat                                 | ESI +    | 374        | 302                 | 51                | 25     | 10     |        | 16.21   |
| spirotetramat                                 | ESI +    | 374        | 330                 | 56                | 23     | 10     |        | 16.21   |
| spiroxamine                                   | ESI +    | 298        | 100                 | 41                | 41     | 12     |        | 15.93   |
| spiroxamine                                   | ESI +    | 298        | 144                 | 55                | 27     | 6      |        | 15.93   |
| tebuconazole                                  | ESI +    | 308        | 125                 | 21                | 47     | 10     |        | 15.63   |
| tebuconazole                                  | ESI +    | 308        | 70                  | 46                | 37     | 6      |        | 15.62   |
| tebufenozide                                  | ESI +    | 353        | 133                 | 50                | 23     | 6      |        | 15.86   |
| tebufenozide                                  | ESI +    | 353        | 297                 | 16                | 43     | 20     |        | 15.85   |
| tebufenpyrad                                  | ESI +    | 334        | 117                 | 51                | 47     | 6      |        | 17.13   |
| Analyte                        | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|-------------------------------|----------|------------|---------------------|-------------------|--------|--------|---------|---------|
| tebufenpyrad                  | ESI +    | 334        | 145                 | 66                | 39     | 10     |         | 17.13   |
| teflubenzuron                 | ESI +    | x          | 381                 | 141               | 51     | 55     | 12      | 17.28   |
| teflubenzuron                 | ESI +    | x          | 381                 | 158               | 41     | 25     | 12      | 17.28   |
| tetraethyl diphosphate        | ESI +    | x          | 291                 | 179               | 66     | 31     | 12      | 12.69   |
| tetraethyl diphosphate        | ESI +    | x          | 291                 | 99                | 66     | 55     | 18      | 12.69   |
| terbacil                      | ESI +    | x          | 161                 | 144               | 49     | 25     | 10      | 12.70   |
| terbacil                      | ESI +    | x          | 161                 | 88                | 49     | 33     | 8       | 12.71   |
| terbufos                      | ESI +    | x          | 289                 | 103               | 51     | 13     | 6       | 17.18   |
| terbufos                      | ESI +    | x          | 289                 | 57                | 51     | 31     | 4       | 17.18   |
| terbufos-sulfone              | ESI +    | x          | 338                 | 115               | 16     | 45     | 8       | 15.18   |
| terbufos-sulfone              | ESI +    | x          | 338                 | 171               | 16     | 23     | 14      | 15.17   |
| terbufos-sulfoxide            | ESI +    | x          | 305                 | 131               | 21     | 39     | 10      | 15.01   |
| terbufos-sulfoxide            | ESI +    | x          | 305                 | 187               | 21     | 17     | 16      | 15.01   |
| terbutylazine                 | ESI +    | x          | 230                 | 132               | 61     | 31     | 8       | 14.10   |
| terbutylazine                 | ESI +    | x          | 230                 | 174               | 35     | 23     | 8       | 14.10   |
| terbutylazine-desethyl        | ESI +    | x          | 202                 | 146               | 36     | 23     | 10      | 12.54   |
| terbutylazine-desethyl        | ESI +    | x          | 204                 | 148               | 41     | 23     | 10      | 12.54   |
| terbutryn                     | ESI +    | x          | 242                 | 186               | 35     | 25     | 10      | 15.08   |
| terbutryn                     | ESI +    | x          | 242                 | 96                | 41     | 43     | 16      | 15.08   |
| tetraconazole                 | ESI +    | x          | 372                 | 159               | 56     | 47     | 10      | 15.23   |
| tetraconazole                 | ESI +    | x          | 372                 | 70                | 36     | 47     | 10      | 15.23   |
| thiabendazole                 | ESI +    | x          | 202                 | 131               | 61     | 43     | 10      | 12.51   |
| thiabendazole                 | ESI +    | x          | 202                 | 175               | 75     | 37     | 14      | 12.51   |
| thiabendazole-5-hydroxy       | ESI +    | x          | 218                 | 191               | 71     | 35     | 10      | 11.46   |
| thiabendazole-5-hydroxy       | ESI +    | x          | 218                 | 147               | 66     | 43     | 10      | 11.46   |
| thiacloprid                   | ESI +    | x          | 253                 | 126               | 95     | 29     | 6       | 13.05   |
| thiacloprid                   | ESI +    | x          | 253                 | 90                | 41     | 49     | 8       | 13.05   |
| thiametoxam                   | ESI +    | x          | 292                 | 181               | 36     | 31     | 10      | 11.72   |
| thiametoxam                   | ESI +    | x          | 292                 | 211               | 46     | 19     | 18      | 11.73   |
| thiazaphuron                  | ESI +    | x          | 241                 | 184               | 16     | 25     | 16      | 12.50   |
| thiazaphuron                  | ESI +    | x          | 241                 | 91                | 46     | 39     | 16      | 12.50   |
| thifensulfuron-methyl         | ESI +    | x          | 388                 | 167               | 50     | 21     | 8       | 12.75   |
| thifensulfuron-methyl         | ESI +    | x          | 388                 | 205               | 51     | 37     | 20      | 12.76   |
| thiodicarb                    | ESI +    | x          | 355                 | 108               | 26     | 21     | 12      | 15.35   |
| thiodicarb                    | ESI +    | x          | 355                 | 88                | 40     | 21     | 14      | 15.36   |
| thiofanox                     | ESI +    | x          | 219                 | 57                | 30     | 17     | 8       | 13.33   |
| thiofanox                     | ESI +    | x          | 219                 | 61                | 16     | 15     | 12      | 13.33   |
| thiofanox-sulfone             | ESI +    | x          | 251                 | 57                | 56     | 23     | 10      | 11.84   |
| thiofanox-sulfone             | ESI +    | x          | 251                 | 76                | 56     | 11     | 14      | 11.85   |
| thiofanox-sulfoxide           | ESI +    | x          | 235                 | 104               | 56     | 13     | 18      | 11.68   |
| thiofanox-sulfoxide           | ESI +    | x          | 235                 | 57                | 56     | 27     | 10      | 11.69   |
| thionetron                    | ESI +    | x          | 247                 | 61                | 26     | 49     | 8       | 14.06   |
| thionetron                    | ESI +    | x          | 247                 | 89                | 26     | 17     | 4       | 14.06   |
| thionazin                     | ESI +    | x          | 249                 | 113               | 31     | 29     | 10      | 14.13   |
| thionazin                     | ESI +    | x          | 249                 | 97                | 31     | 37     | 8       | 14.13   |
| thiophanate-ethyl             | ESI +    | x          | 371                 | 151               | 46     | 25     | 8       | 14.72   |
| thiophanate-ethyl             | ESI +    | x          | 371                 | 325               | 46     | 21     | 8       | 14.71   |
| Analyte                      | ESI mode | Quanti. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|------------------------------|----------|-------------|---------------------|-------------------|--------|--------|---------|---------|
| thiophanate-methyl          | ESI +    | x           | 343                 | 151               | 46     | 25     | 8       | 13.32   |
| thiophanate-methyl          | ESI +    |             | 343                 | 311               | 36     | 15     | 10      | 13.33   |
| tiocarbazil                 | ESI +    |             | 280                 | 100               | 36     | 21     | 8       | 17.80   |
| tiocarbazil                 | ESI + x  |             | 280                 | 91                | 36     | 45     | 6       | 17.80   |
| triadimefon                 | ESI + x  |             | 294                 | 197               | 41     | 23     | 16      | 15.05   |
| triadimefon                 | ESI + x  |             | 294                 | 225               | 36     | 19     | 10      | 15.05   |
| triadimeno                  | ESI + x  |             | 298                 | 70                | 16     | 21     | 4       | 14.34   |
| triadimeno                  | ESI + x  |             | 298                 | 70                | 16     | 25     | 8       | 14.43   |
| triamiphos                  | ESI + x  |             | 295                 | 44                | 86     | 67     | 4       | 14.11   |
| triamiphos                  | ESI +    |             | 295                 | 92                | 86     | 53     | 8       | 14.11   |
| triasulfuron                | ESI +    |             | 402                 | 141               | 41     | 29     | 10      | 13.93   |
| triasulfuron                | ESI + x  |             | 402                 | 167               | 46     | 25     | 12      | 13.92   |
| triazamate                  | ESI + x  |             | 315                 | 226               | 36     | 17     | 14      | 15.75   |
| triazamate                  | ESI +    |             | 315                 | 184               | 36     | 43     | 16      | 15.75   |
| triazophos                  | ESI + x  |             | 314                 | 119               | 46     | 47     | 6       | 16.10   |
| triazophos                  | ESI +    |             | 314                 | 162               | 46     | 27     | 14      | 16.10   |
| tribenuron-methyl           | ESI + x  |             | 396                 | 155               | 65     | 21     | 8       | 16.08   |
| tribenuron-methyl           | ESI +    |             | 396                 | 181               | 51     | 29     | 16      | 16.08   |
| trichlorfon                 | ESI +    |             | 257                 | 221               | 66     | 15     | 6       | 11.67   |
| trichlorfon                 | ESI + x  |             | 259                 | 109               | 71     | 25     | 8       | 11.66   |
| tricyclazole                | ESI + x  |             | 190                 | 136               | 71     | 37     | 10      | 13.75   |
| tricyclazole                | ESI +    |             | 190                 | 163               | 71     | 31     | 14      | 13.75   |
| tridemorph                  | ESI +    |             | 298                 | 130               | 70     | 35     | 6       | 17.59   |
| tridemorph                  | ESI + x  |             | 298                 | 98                | 56     | 41     | 8       | 17.59   |
| trietazine                  | ESI +    |             | 230                 | 132               | 26     | 29     | 12      | 14.96   |
| trietazine                  | ESI + x  |             | 230                 | 99                | 26     | 33     | 12      | 14.96   |
| trifloxystrobin             | ESI +    |             | 409                 | 186               | 30     | 25     | 4       | 17.46   |
| trifloxystrobin             | ESI + x  |             | 409                 | 206               | 30     | 21     | 10      | 17.46   |
| trifloxysulfuron            | ESI + x  |             | 438                 | 156               | 41     | 39     | 10      | 14.43   |
| trifloxysulfuron            | ESI +    |             | 438                 | 182               | 41     | 27     | 12      | 14.43   |
| triflumizole                | ESI + x  |             | 346                 | 278               | 20     | 17     | 16      | 16.92   |
| triflumizole                | ESI +    |             | 346                 | 73                | 6      | 23     | 16      | 16.91   |
| triflumizole-metabolet FM-6-1| ESI +    |             | 295                 | 215               | 126    | 33     | 16      | 13.78   |
| triflumizole-metabolet FM-6-1| ESI + x  |             | 295                 | 278               | 126    | 21     | 20      | 13.78   |
| triflumuron                 | ESI + x  |             | 359                 | 139               | 51     | 47     | 12      | 16.17   |
| triflumuron                 | ESI +    |             | 359                 | 156               | 46     | 25     | 12      | 16.17   |
| trisulfuron-methyl          | ESI +    |             | 493                 | 238               | 40     | 29     | 20      | 15.93   |
| trisulfuron-methyl          | ESI + x  |             | 493                 | 264               | 60     | 29     | 14      | 15.93   |
| trifluron                   | ESI +    |             | 435                 | 390               | 26     | 27     | 12      | 13.70   |
| trifluron                   | ESI + x  |             | 437                 | 392               | 51     | 15     | 10      | 13.70   |
| triticonazole               | ESI +    |             | 318                 | 70                | 50     | 33     | 4       | 15.20   |
| triticonazole               | ESI + x  |             | 320                 | 70                | 36     | 33     | 10      | 15.21   |
| uniconazole                 | ESI +    |             | 292                 | 125               | 46     | 43     | 10      | 14.96   |
| uniconazole                 | ESI + x  |             | 292                 | 70                | 45     | 37     | 10      | 14.96   |
| vamidothion                 | ESI +    |             | 288                 | 118               | 36     | 31     | 6       | 11.94   |
| vamidothion                 | ESI + x  |             | 288                 | 146               | 30     | 17     | 8       | 11.95   |
| vamidothion-sulfone         | ESI + x  |             | 320                 | 178               | 61     | 21     | 12      | 11.50   |
| Analyte                                           | ESI mode | Quant. ion | Precursor ion [m/z] | Product ion [m/z] | DP [V] | CE [V] | CXP [V] | RT [min] |
|--------------------------------------------------|----------|------------|---------------------|-------------------|--------|--------|--------|----------|
| vamidothion-sulfone                              | ESI +    |            | 320                 | 58                | 61     | 65     | 12     | 11.50    |
| vamidothion-sulfoxide                            | ESI +    |            | 304                 | 169               | 46     | 23     | 12     | 10.93    |
| vamidothion-sulfoxide                            | ESI + x  | 304        | 201                 | 46                | 17     | 14     |        | 10.93    |
| zoxamide                                         | ESI +    |            | 336                 | 187               | 41     | 37     | 12     | 15.84    |
| zoxamide                                         | ESI +    |            | 338                 | 189               | 36     | 33     | 12     | 15.84    |
| diuron-d6                                        | ESI -    | 237        | 186                 | -40               | -26    | -15    |        | 13.27    |
| alternariol                                      | ESI -    | 257        | 212                 | -165              | -40    | -17    |        | 13.65    |
| alternariol                                      | ESI - x  | 257        | 215                 | -165              | -34    | -29    |        | 13.64    |
| alternariol monomethyl ether                     | ESI -    | 271        | 256                 | -5                | -32    | -25    |        | 16.30    |
| alternariol monomethyl ether                     | ESI - x  | 271        | 255                 | -50               | -44    | -21    |        | 16.30    |
| citrinin                                         | ESI - x  | 249        | 175                 | -190              | -40    | -13    |        | 12.13    |
| 3-acetyloxyvalenol                               | ESI -    | 383        | 307                 | -40               | -10    |        |        | 12.02    |
| 3-acetyloxyvalenol                               | ESI -    | 383        | 247                 | -40               | -18    | -8     |        | 12.02    |
| deoxynivalenol                                   | ESI -    | 341        | 265                 | -40               | -16    | -9     |        | 11.05    |
| deoxynivalenol-3-glucoside                       | ESI - x  | 503        | 427                 | -75               | -28    | -13    |        | 4.03     |
| nivalenol                                        | ESI - x  | 357        | 281                 | -40               | -18    | -10    |        | 2.47     |
| nivalenol                                        | ESI -    | 357        | 203                 | -40               | -24    | -7     |        | 2.47     |
| ochratoxin A                                     | ESI -    | 402        | 211                 | -70               | -40    | -7     |        | 15.17    |
| ochratoxin A                                     | ESI - x  | 402        | 167                 | -70               | -50    | -8     |        | 15.17    |
| zearalenone                                      | ESI - x  | 317        | 131                 | -10               | -42    | -7     |        | 16.04    |
| zearalenone                                      | ESI -    | 317        | 175                 | -10               | -32    | -17    |        | 16.04    |
| zearalenone-14-sulfate                           | ESI -    | 397        | 175                 | -80               | -48    | -19    |        | 13.38    |
| zearalenone-14-sulfate                           | ESI -    | 397        | 317                 | -80               | -30    | -35    |        | 13.38    |
| zearalenone-14,16-disulfate                      | ESI - x  | 477        | 397                 | -65               | -20    | -13    |        | 11.43    |
| zearalenone-14,16-disulfate                      | ESI -    | 238        | 80                  | -75               | -22    | -13    |        | 11.42    |
| α-zearalenol                                     | ESI -    | 319        | 160                 | -150              | -42    | -19    |        | 14.87    |
| α-zearalenol                                     | ESI - x  | 319        | 174                 | -150              | -36    | -15    |        | 14.86    |
| α-zearalenol-14-sulfate                          | ESI -    | 399        | 174                 | -100              | -52    | -17    |        | 12.66    |
| α-zearalenol-14-sulfate                          | ESI - x  | 399        | 319                 | -100              | -34    | -37    |        | 12.66    |
| β-zearalenol                                     | ESI -    | 319        | 160                 | -5                | -40    | -15    |        | 14.10    |
| β-zearalenol                                     | ESI - x  | 319        | 174                 | -5                | -38    | -23    |        | 14.10    |
| β-zearalenol-14-sulfate                          | ESI -    | 399        | 275                 | -85               | -44    | -29    |        | 12.00    |
| β-zearalenol-14-sulfate                          | ESI - x  | 399        | 319                 | -85               | -34    | -9     |        | 12.00    |
Table S4 Spiking Levels of Validation of Mycotoxins, Plant Growth Regulators, Tropane Alkaloids, and Pesticides.

| Level | Replicates | Mycotoxins (x-times estimated LOQ) | Deoxynivalenol-3-glucoside [mg/kg] | Plant growth regulators [mg/kg] | Tropane alkaloids [mg/kg] | Pesticides [mg/kg] | Aminopyralid, dodine [mg/kg] |
|-------|------------|------------------------------------|------------------------------------|---------------------------------|--------------------------|-------------------|-----------------------------|
| 1     | 6          | 1                                  | 0.05                               | 0.005                           | 0.005                    | 0.005             | 0.05                        |
| 2     | 6          | 1.5                                | 0.0075                             | 0.0075                          | 0.0075                   | 0.0075            | 0.0075                      |
| 3     | 6          | 2                                  | 0.1                                | 0.01                            | 0.01                     | 0.01              | 0.1                         |
| 4     | 1          | 4                                  | 0.2                                | 0.02                            | 0.02                     | 0.02              | 0.2                         |
| 5     | 1          | 10                                 | 0.5                                | 0.05                            | 0.05                     | 0.05              | 0.5                         |
| 6     | 1          | 15                                 | 0.75                               | 0.075                           | 0.075                    | 0.075             | 0.75                        |
| 7     | 6          | 20                                 | 1                                  | 0.1                             | 0.1                      | 0.1               | 1                           |
| 8     | 6          | 40                                 | -                                  | 0.2                             | 0.2                      | 0.2               | 2                           |
| 9     | 1          | 70                                 | -                                  | 0.35                            | 0.35                     | 0.35              | 3.5                         |
| 10    | 1          | 100                                | -                                  | 0.5                             | 0.5                      | 0.5               | 5                           |
| Analyte                                      | Evaluated levels | Calibration range [µg/kg] | $R^2$ | MU [%]$^a$ |
|---------------------------------------------|------------------|---------------------------|-------|------------|
| aflatoxin B1                                 | 7                | 1 - 40                    | 0.9997| 20         |
| aflatoxin B2                                 | 7                | 1 - 40                    | 0.9993| 41         |
| aflatoxin G1                                 | 7                | 1 - 40                    | 0.9971| 30         |
| aflatoxin G2                                 | 7                | 1 - 40                    | 0.9999| 35         |
| altenuene                                    | 7                | 20 - 800                  | 0.9999| 26         |
| alternariol                                  | 7                | 1 - 70                    | 0.9975| 31         |
| alternariol monomethyl ether                 | 7                | 1 - 70                    | 0.9988| 20         |
| citrinin                                     | 7                | 50 - 2000                 | 0.9943| 38         |
| deoxynivalenol                               | 7                | 50 - 2000                 | 0.9988| 28         |
| deoxynivalenol-3-glucoside                   | 7                | 50 - 1000                 | 0.9996| 19         |
| 15-acetyldideoxynivalenol                    | 7                | 50 - 2000                 | 0.9994| 28         |
| 3-acetyldideoxynivalenol                     | 7                | 50 - 2000                 | 0.9992| 39         |
| diacetoxyiscirpenol                          | 7                | 5 - 200                   | 0.9994| 19         |
| fumonisin B1                                 | 7                | 10 - 400                  | 0.9996| 297        |
| hydrolyzed fumonisin B1                      | 7                | 100 - 4000                | 0.9967| 24         |
| fumonisin B2                                 | 7                | 10 - 400                  | 0.9961| 138        |
| hydrolyzed fumonisin B2                      | 7                | 100 - 4000                | 0.9995| 15         |
| fumonisin B3                                 | 7                | 10 - 400                  | 0.9969| 139        |
| fusarenon X                                  | 7                | 300 - 8000                | 0.9992| 19         |
| HT-2 toxin                                   | 7                | 50 - 2000                 | 0.9999| 31         |
| neosolaniol                                  | 7                | 5 - 200                   | 0.9988| 39         |
| nivalenol                                    | 7                | 200 - 8000                | 0.9996| 19         |
| ochratoxin A                                 | 7                | 3 - 120                   | 0.9998| 28         |
| sterigmatocystin                             | 7                | 1 - 40                    | 0.9999| 23         |
| T-2 toxin                                    | 7                | 10 - 400                  | 0.9998| 27         |
| tentoxin                                     | 7                | 5 - 200                   | 0.9978| 36         |
| zearalenone                                  | 7                | 10 - 400                  | 0.9988| 23         |
| zearalenone-14-glucoside                     | 7                | 50 - 2000                 | 0.9997| 28         |
| zearalenone-14-sulfate                       | 7                | 50 - 2000                 | 0.9999| 26         |
| zearalenone-14,16-disulfate                  | 7                | 100 - 4000                | 0.9996| 38         |
| α-zearalenol                                 | 7                | 10 - 400                  | 0.9992| 21         |
| α-zearalenol-14-glucoside                    | 7                | 50 - 2000                 | 0.9983| 44         |
| α-zearalenol-14-sulfate                      | 7                | 10 - 400                  | 0.9942| 26         |
| β-zearalenol                                 | 7                | 10 - 400                  | 0.9975| 25         |
| β-zearalenol-14-glucoside                    | 7                | 50 - 2000                 | 0.9996| 47         |
| β-zearalenol-14-sulfate                      | 7                | 10 - 400                  | 0.9953| 32         |
| zearalanone                                  | 7                | 50 - 2000                 | 0.9921| 21         |
| zearalanone-14-glucoside                     | 7                | 10 - 400                  | 0.9998| 24         |
| α-zearalanol                                 | 7                | 100 - 4000                | 0.9994| 22         |
| β-zearalanol                                 | 7                | 100 - 4000                | 0.9983| 39         |
| chlormequat                                  | 7                | 5 - 350                   | 0.9998| 10         |
| mepiquat                                     | 7                | 5 - 350                   | 0.9998| 12         |
| atropine                                     | 7                | 5 - 200                   | 0.9991| 18         |
| scopolamine                                  | 7                | 5 - 200                   | 0.9992| 14         |
Evaluated at spiking level of LOQ.
Table S6 Limits of Quantification (LOQ), Evaluated Levels, Calibration Range, $R^2$, and Measurement Uncertainty (MU, $k = 2$) for Pesticides in Wheat.

| Analyte                      | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | $R^2$   | MU [%]a |
|------------------------------|-------------|------------------|---------------------------|---------|---------|
| 3,4,5-trimethacarb           | 5           | 6                | 5 - 200                   | 0.9998  | 35      |
| acephate                     | 10          | 6                | 10 - 200                  | 0.9962  | 18      |
| acetamiprid                  | 5           | 6                | 5 - 200                   | 0.9964  | 17      |
| acetoxycarb                  | 10          | 6                | 10 - 200                  | 0.9930  | 32      |
| alachlor                     | 100         | 4                | 100 - 500                 | 0.9962  | 16      |
| aldicarb                     | 5           | 6                | 5 - 200                   | 0.9993  | 15      |
| aldicarb-sulfoxide           | 5           | 6                | 5 - 200                   | 0.9999  | 16      |
| aldoxycarb                   | 5           | 6                | 5 - 200                   | 0.9993  | 25      |
| ametocryn                    | 5           | 6                | 5 - 200                   | 0.9993  | 36      |
| ametraz                      | 100         | 4                | 100 - 500                 | 0.9995  | 86      |
| amitraz-amide                | 10          | 6                | 10 - 200                  | 0.9991  | 22      |
| amitraz-amidin               | 5           | 6                | 5 - 200                   | 0.9969  | 22      |
| ancymidol                    | 10          | 6                | 10 - 200                  | 0.9892  | 26      |
| atrazine                     | 5           | 6                | 5 - 200                   | 0.9997  | 15      |
| atrazine-desethyl-desisopropyl| 5         | 6                | 5 - 100                   | 0.9991  | 18      |
| avermectin B1a              | 100         | 4                | 100 - 500                 | 0.9989  | 42      |
| avermectin B1b              | n.a.        | n.a.             | n.a.                      | n.a.    | n.a.    |
| azaconazole                 | 5           | 6                | 5 - 200                   | 0.9985  | 28      |
| azamethiphos                | 5           | 6                | 5 - 100                   | 0.9971  | 29      |
| aziprotryne                 | 5           | 6                | 5 - 200                   | 0.9996  | 40      |
| azoxyystrobin               | 5           | 6                | 5 - 100                   | 0.9993  | 12      |
| benalaxyl                   | 5           | 6                | 5 - 100                   | 0.9996  | 13      |
| bendiocarb                  | 10          | 6                | 10 - 200                  | 0.9906  | 86      |
| benfuracarb                 | 10          | 6                | 10 - 350                  | 0.9971  | 76      |
| benodanil                   | 5           | 6                | 5 - 100                   | 0.9999  | 24      |
| benomyl                     | n.a.        | n.a.             | n.a.                      | n.a.    | n.a.    |
| bensulfuron-methyl          | 5           | 6                | 5 - 200                   | 0.9899  | 23      |
| benthiavalcarb-isopropyl    | 5           | 6                | 5 - 200                   | 0.9898  | 27      |
| bitertanol                  | 10          | 6                | 10 - 350                  | 0.9999  | 34      |
| boscalid                    | 5           | 6                | 5 - 200                   | 0.9999  | 24      |
| bromacil                    | 5           | 6                | 5 - 200                   | 0.9993  | 22      |
| bromuconazole               | 10          | 6                | 10 - 350                  | 0.9988  | 18      |
| bupirimate                  | 5           | 6                | 5 - 200                   | 0.9992  | 26      |
| buprofezin                  | 5           | 6                | 5 - 200                   | 0.9999  | 22      |
| butachlor                   | 10          | 6                | 10 - 350                  | 0.9995  | 35      |
| butocarboxim                | 5           | 6                | 5 - 200                   | 0.9999  | 22      |
| butocarboxim-sulfoxide      | 5           | 6                | 5 - 200                   | 0.9998  | 16      |
| butoxycurboxim              | 5           | 6                | 5 - 200                   | 0.9999  | 21      |
| Analyte                  | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | $R^2$       | MU [%]$^a$ |
|-------------------------|-------------|------------------|---------------------------|-------------|------------|
| buturon                 | 5           | 6                | 5 - 200                   | 0.9985      | 34         |
| cadusafos               | 5           | 6                | 5 - 200                   | 0.9987      | 23         |
| carbaryl                | 5           | 6                | 5 - 200                   | 0.9961      | 202        |
| carbenzadim             | 5           | 6                | 5 - 100                   | 0.9936      | 12         |
| carbofuran              | 5           | 6                | 5 - 200                   | 0.9947      | 64         |
| carbofuran-3-hydroxy    | 5           | 6                | 5 - 200                   | 0.9996      | 188        |
| carbosulfan             | 5           | 6                | 5 - 75                    | 0.9856      | 100        |
| carboxin                | 5           | 6                | 5 - 100                   | 0.9978      | 15         |
| chlorantraniliprole     | 5           | 6                | 5 - 200                   | 0.9994      | 26         |
| chlorbromuron           | 5           | 6                | 5 - 200                   | 0.9985      | 18         |
| chlorfluazuron          | 5           | 6                | 5 - 200                   | 0.9999      | 29         |
| chloridazon             | 5           | 6                | 5 - 200                   | 0.9961      | 33         |
| chloroxuron             | 5           | 6                | 5 - 200                   | 0.9996      | 30         |
| chlorpropham            | 100         | 4                | 100 - 500                 | 0.9991      | 31         |
| chlorpyriduron          | 5           | 6                | 5 - 200                   | 0.9986      | 28         |
| chlorpyriduron-3-hydroxy| 5           | 6                | 5 - 200                   | 0.9968      | 13         |
| cinidon-ethyl           | 10          | 6                | 10 - 350                  | 0.9999      | 23         |
| cinosulfuron            | 5           | 6                | 5 - 200                   | 0.9946      | 20         |
| clethodim               | 5           | 6                | 5 - 200                   | 0.9997      | 28         |
| clodinafop-propargyl    | 5           | 6                | 5 - 100                   | 0.9971      | 16         |
| clomazone               | 5           | 6                | 5 - 200                   | 0.9999      | 28         |
| clothianidin            | 10          | 6                | 10 - 350                  | 0.9918      | 24         |
| cyazofamid              | 10          | 6                | 10 - 350                  | 0.9943      | 21         |
| cymoxanil               | 100         | 4                | 100 - 500                 | 0.9967      | 61         |
| cyproconazole           | 5           | 6                | 5 - 200                   | 0.9995      | 17         |
| cyprodinil              | 10          | 6                | 10 - 350                  | 0.9997      | 27         |
| cyprofuram              | 5           | 6                | 5 - 200                   | 0.9975      | 20         |
| cyromazine              | 5           | 6                | 5 - 200                   | 0.9996      | 46         |
| daminozide              | 100         | 4                | 100 - 500                 | 0.9941      | 19         |
| demeton                 | 5           | 6                | 5 - 200                   | 0.9997      | 23         |
| demeton-S-methyl        | 5           | 6                | 5 - 200                   | 0.9991      | 21         |
| demeton-S-methyl-sulfone| 5           | 6                | 5 - 200                   | 0.9986      | 17         |
| desmedipham             | n.a.        | n.a.             | n.a.                      | n.a.        | n.a.       |
| desmetryn               | 5           | 6                | 5 - 100                   | 0.9975      | 21         |
| diazinon                | 5           | 6                | 5 - 100                   | 0.9992      | 25         |
| dichlorvos              | 100         | 4                | 100 - 500                 | 0.9937      | 21         |
| diclobutrazol           | 100         | 4                | 100 - 500                 | 0.9915      | 15         |
| diethofencarb           | 5           | 6                | 5 - 200                   | 0.9994      | 25         |
| diethyldithiocarbamide  | 5           | 6                | 5 - 100                   | 0.9946      | 24         |
| difenoconazole          | 5           | 6                | 5 - 200                   | 0.9998      | 19         |
| difenoxyuron            | 5           | 6                | 5 - 200                   | 0.9997      | 20         |
| diflubenzuron           | 5           | 6                | 5 - 200                   | 0.9992      | 22         |
| diflufenican            | 5           | 6                | 5 - 200                   | 0.9993      | 26         |
| dimefox                 | 100         | 4                | 100 - 500                 | 0.9949      | 16         |
| Analyte                  | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | \( R^2 \) | MU [%]¹ |
|-------------------------|-------------|------------------|---------------------------|-----------|---------|
| dimefuron               | 5           | 6                | 5 - 200                   | 0.9996    | 20      |
| dimethenamid            | 5           | 6                | 5 - 200                   | 0.9997    | 35      |
| dimethoate              | 5           | 6                | 5 - 200                   | 0.9986    | 23      |
| dimethomorph            | 5           | 6                | 5 - 200                   | 0.9993    | 29      |
| dimetilan               | 5           | 6                | 5 - 200                   | 0.9921    | 13      |
| dimoxystrobin           | 5           | 6                | 5 - 200                   | 0.9971    | 25      |
| dinotefuran             | 5           | 6                | 5 - 200                   | 0.9996    | 19      |
| disulfoton              | 5           | 6                | 5 - 200                   | 0.9999    | 48      |
| disulfoton-sulfone      | 5           | 6                | 5 - 200                   | 0.9991    | 30      |
| disulfoton-sulfoxide    | 5           | 6                | 5 - 200                   | 0.9983    | 19      |
| diuron                  | 5           | 6                | 5 - 200                   | 0.9980    | 19      |
| dodine                  | n.a.        | n.a.             | n.a.                      | n.a.      | n.a.    |
| emamectin B1a³          | 5           | 6                | 5 - 200                   | 0.9994    | 34      |
| emamectin B1b³          | 5           | 6                | 5 - 200                   | 0.9989    | 89      |
| epoxiconazole           | 5           | 6                | 5 - 200                   | 0.9997    | 29      |
| ethiofencarb            | 5           | 6                | 5 - 200                   | 0.9906    | 250     |
| ethiofencarb-sulfone    | 100         | 4                | 100 - 500                 | 0.9926    | 238     |
| ethiofencarb-sulfoxide  | 100         | 4                | 100 - 500                 | 0.9975    | 230     |
| ethiprole               | 5           | 6                | 5 - 200                   | 0.9994    | 32      |
| ethofumesate            | 5           | 6                | 5 - 200                   | 0.9990    | 40      |
| ethofumesate-2-keto     | 100         | 4                | 100 - 500                 | 0.9940    | 35      |
| ethoprosol              | 5           | 6                | 5 - 200                   | 0.9999    | 25      |
| etofenprox              | 5           | 6                | 5 - 200                   | 0.9996    | 31      |
| etoxazole               | 5           | 6                | 5 - 200                   | 0.9998    | 23      |
| famoxadon               | 5           | 6                | 5 - 200                   | 0.9998    | 24      |
| fenamidone              | 5           | 6                | 5 - 200                   | 0.9986    | 14      |
| fenamiphos              | 5           | 6                | 5 - 200                   | 0.9975    | 35      |
| fenamiphos-sulfone      | 5           | 6                | 5 - 200                   | 0.9989    | 41      |
| fenamiphos-sulfoxide    | 5           | 6                | 5 - 200                   | 0.9996    | 29      |
| fenarimol               | 10          | 6                | 10 - 350                  | 0.9998    | 36      |
| fenazaquin              | 5           | 6                | 5 - 200                   | 0.9999    | 8       |
| fenbuconaazole          | 5           | 6                | 5 - 200                   | 0.9998    | 38      |
| fenhexamid              | 10          | 6                | 10 - 350                  | 0.9994    | 47      |
| fenobucarb              | 5           | 6                | 5 - 200                   | 0.9999    | 34      |
| fenoxyazox-ethyl        | 10          | 6                | 10 - 200                  | 0.9878    | 27      |
| fenoxyazox              | 5           | 6                | 5 - 200                   | 0.9979    | 23      |
| fenpiclonil             | 5           | 6                | 5 - 200                   | 0.9996    | 42      |
| fenpropidin             | 5           | 6                | 5 - 200                   | 0.9991    | 16      |
| fenpropimorph           | 5           | 6                | 5 - 200                   | 0.9998    | 21      |
| fenpyroximate           | 5           | 6                | 5 - 200                   | 0.9956    | 15      |
| fensulfothion           | 5           | 6                | 5 - 200                   | 0.9961    | 25      |
| fensulfothion-PO-sulfone| 5           | 6                | 5 - 200                   | 0.9935    | 22      |
| fensulfothion-PO-sulfoxide| 5        | 6                | 5 - 200                   | 0.9997    | 42      |
| fensulfothion-PS-sulfone| 5           | 6                | 5 - 200                   | 0.9998    | 23      |
| fenthion                | 10          | 6                | 10 - 350                  | 0.9997    | 18      |
| Analyte                       | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | $R^2$    | MU [%]¹ |
|------------------------------|-------------|------------------|---------------------------|---------|---------|
| fenthion-oxon                | 5           | 6                | 5 - 200                   | 0.9995  | 21      |
| fenthion-PO-sulfone          | 5           | 6                | 5 - 200                   | 0.9971  | 23      |
| fenthion-PO-sulfoxide        | 5           | 6                | 5 - 200                   | 0.9997  | 26      |
| fenthion-PS-sulfone          | 10          | 6                | 10 - 350                  | 0.9992  | 34      |
| fenthion-PS-sulfoxide        | 5           | 6                | 5 - 200                   | 0.9969  | 27      |
| fenuron                      | 100         | 4                | 100 - 500                 | 0.9811  | 14      |
| flazasulfuron                | 5           | 6                | 5 - 200                   | 0.9937  | 23      |
| fonicamid                    | 5           | 6                | 5 - 200                   | 0.9997  | 41      |
| florasulam                   | 5           | 6                | 5 - 200                   | 0.9992  | 28      |
| fluazifop-P-butyl            | 5           | 6                | 5 - 200                   | 0.9990  | 38      |
| fluazuron                    | 5           | 6                | 5 - 200                   | 0.9996  | 41      |
| flucyclonoxuron              | 5           | 6                | 5 - 200                   | 0.9991  | 13      |
| fludioxonil                  | 10          | 6                | 10 - 200                  | 0.9930  | 26      |
| flufenacet                   | 5           | 6                | 5 - 200                   | 0.9956  | 29      |
| flufenoxuron                 | 5           | 6                | 5 - 200                   | 0.9999  | 32      |
| fluometuron                  | 5           | 6                | 5 - 200                   | 0.9929  | 20      |
| fluopicolide                 | 5           | 6                | 5 - 200                   | 0.9997  | 26      |
| furochloridone               | 5           | 6                | 5 - 200                   | 0.9994  | 16      |
| flurprimidol                 | 5           | 6                | 5 - 200                   | 0.9996  | 37      |
| flusilazole                  | 5           | 6                | 5 - 200                   | 0.9996  | 18      |
| fluazifop                   100  | 4                | 100 - 500        | 0.9808                   | 11      |
| formetanate                  | 5           | 6                | 5 - 200                   | 0.9995  | 77      |
| fosthiazate                  | 5           | 6                | 5 - 200                   | 0.9993  | 18      |
| fuberidazole                 | 5           | 6                | 5 - 200                   | 0.9946  | 20      |
| furathiocarb                 | 5           | 6                | 5 - 200                   | 0.9990  | 72      |
| halofenozide                 | 5           | 6                | 5 - 200                   | 0.9969  | 22      |
| haloxyfop                   100  | 4                | 100 - 500        | 0.9808                   | 11      |
| haloxyfop-2-ethylxyethyl     | 5           | 6                | 5 - 200                   | 0.9987  | 32      |
| haloxyfop-methyl             | 5           | 6                | 5 - 100                   | 0.9967  | 10      |
| hexaconazole                 | 5           | 6                | 5 - 200                   | 0.9995  | 23      |
| hexaflumuron                 | 100         | 6                | 100 - 500                 | 0.9959  | 17      |
| hexazinone                   | 5           | 6                | 5 - 200                   | 0.9982  | 21      |
| hexythiazox                  | 5           | 6                | 5 - 200                   | 0.9996  | 21      |
| imazalil                     | 5           | 6                | 5 - 200                   | 0.9986  | 34      |
| imibenconazole               | 5           | 6                | 5 - 200                   | 0.9993  | 23      |
| imidacloprid                 | 5           | 6                | 5 - 200                   | 0.9994  | 40      |
| indoxacarb                   | 5           | 6                | 5 - 200                   | 0.9999  | 32      |
| iodosulfuron-methyl          | 10          | 6                | 10 - 350                  | 0.9948  | 23      |
| iprovalicarb                 | 5           | 6                | 5 - 200                   | 0.9997  | 20      |
| isopropcarb                  | 10          | 6                | 10 - 350                  | 0.9988  | 44      |
| isoprothiolane               | 5           | 6                | 5 - 100                   | 0.9987  | 35      |
| isoproturon                  | 10          | 6                | 10 - 200                  | 0.9889  | 28      |
| isoxaben                     | 5           | 6                | 5 - 100                   | 0.9986  | 25      |
| isoxathion                   | n.a.        | n.a.             | n.a.                      | n.a.    | n.a.    |
| isoxaflutole                 | n.a.        | n.a.             | n.a.                      | n.a.    | n.a.    |
| lenacil                      | 5           | 6                | 5 - 200                   | 0.9995  | 25      |
| Analyte                  | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | \( R^2 \) | MU [%]a |
|-------------------------|-------------|------------------|---------------------------|--------|--------|
| linuron                 | 5           | 6                | 5 - 200                   | 0.9997 | 21     |
| lufenuron               | 5           | 6                | 5 - 200                   | 0.9999 | 49     |
| malaoxon                | 5           | 6                | 5 - 200                   | 0.9948 | 30     |
| malathion               | 5           | 6                | 5 - 200                   | 0.9997 | 29     |
| mandipropamid           | 100         | 6                | 5 - 200                   | 0.9995 | 32     |
| mepanipyrim             | 100         | 6                | 100 - 500                 | 0.9970 | 24     |
| metalaxyl               | 5           | 6                | 5 - 200                   | 0.9992 | 20     |
| metamitron              | 5           | 6                | 5 - 200                   | 0.9992 | 35     |
| metazachlor             | 5           | 6                | 5 - 200                   | 0.9995 | 25     |
| metconazole             | 5           | 6                | 5 - 200                   | 0.9991 | 37     |
| methabenzthiazuron      | 5           | 6                | 5 - 200                   | 0.9991 | 25     |
| methacrifos             | 100         | 6                | 100 - 500                 | 0.9995 | 24     |
| methamidophos           | 10          | 6                | 10 - 350                  | 0.9999 | 15     |
| methidathion            | 5           | 6                | 5 - 200                   | 0.9997 | 29     |
| methiocarb              | 10          | 6                | 10 - 200                  | 0.9868 | 229    |
| methiocarb-sulfone      | 100         | 6                | 100 - 500                 | 0.9867 | 222    |
| methiocarb-sulfoxide    | 100         | 6                | 100 - 500                 | 0.9963 | 245    |
| metholachlor            | 5           | 6                | 5 - 200                   | 0.9995 | 35     |
| methomyl                | 5           | 6                | 5 - 200                   | 0.9983 | 32     |
| methoprotryn            | 5           | 6                | 5 - 200                   | 0.9962 | 22     |
| methoxyfenozide         | 5           | 6                | 5 - 200                   | 0.9997 | 27     |
| metobromuron            | 5           | 6                | 5 - 200                   | 0.9994 | 22     |
| metolcarb               | 100         | 6                | 100 - 500                 | 0.9951 | 40     |
| metoxuron               | 5           | 6                | 5 - 200                   | 0.9996 | 26     |
| metrafenone             | 5           | 6                | 5 - 200                   | 0.9999 | 30     |
| metribuzin              | 5           | 6                | 5 - 200                   | 0.9996 | 22     |
| metsulfuron-methyl      | 5           | 6                | 5 - 200                   | 0.9972 | 50     |
| molinate                | 100         | 6                | 100 - 500                 | 0.9984 | 23     |
| monocrotophos           | 5           | 6                | 5 - 200                   | 0.9998 | 35     |
| monolinuron             | 5           | 6                | 5 - 200                   | 0.9999 | 21     |
| monuron                 | 5           | 6                | 5 - 200                   | 0.9996 | 46     |
| napropamide             | 5           | 6                | 5 - 200                   | 0.9995 | 41     |
| neburon                 | 5           | 6                | 5 - 200                   | 0.9995 | 27     |
| nicosulfuron            | 5           | 6                | 5 - 200                   | 0.9982 | 26     |
| novaluron               | 5           | 6                | 5 - 200                   | 0.9998 | 47     |
| nuarimol                | 10          | 6                | 10 - 350                  | 0.9999 | 31     |
| ofurace                 | 5           | 6                | 5 - 200                   | 0.9981 | 19     |
| omethoate               | 5           | 6                | 5 - 200                   | 0.9999 | 18     |
| orbencarb               | 5           | 6                | 5 - 200                   | 0.9999 | 39     |
| oxadixyl                | 5           | 6                | 5 - 200                   | 0.9999 | 17     |
| oxamyl                  | 5           | 6                | 5 - 200                   | 0.9995 | 15     |
| oxamyl-oxime            | 5           | 6                | 5 - 200                   | 0.9997 | 18     |
| oxydemeton-methyl       | 5           | 6                | 5 - 200                   | 0.9995 | 26     |
| paclorobutrazol         | 10          | 6                | 10 - 200                  | 0.9852 | 18     |
| paraoxon-ethyl          | 5           | 6                | 5 - 200                   | 0.9944 | 28     |
| paraoxon-methyl         | 10          | 6                | 10 - 350                  | 0.9982 | 34     |
| penconazole             | 5           | 6                | 5 - 200                   | 0.9981 | 23     |
| Analyte                  | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | $R^2$   | MU [%]$^a$ |
|-------------------------|-------------|------------------|---------------------------|--------|-----------|
| pencycuron              | 5           | 6                | 5 - 200                   | 0.9993 | 24        |
| pendimethalin           | 100         | 6                | 100 - 500                 | 0.9987 | 18        |
| pentanochlor            | 10          | 6                | 10 - 350                  | 0.9914 | 19        |
| phenmedipham            | n.a.        | n.a.             | n.a.                      | n.a.   | n.a.      |
| phorate                 | 100         | 6                | 100 - 500                 | 0.9999 | 18        |
| phorate-sulfone         | 5           | 6                | 5 - 200                   | 0.9995 | 34        |
| phorate-sulfoxide       | 5           | 6                | 5 - 200                   | 0.9991 | 31        |
| phosmet                 | 10          | 6                | 10 - 350                  | 0.9932 | 24        |
| phosphamidon            | 5           | 6                | 5 - 200                   | 0.9999 | 34        |
| phoxim                  | 5           | 6                | 5 - 200                   | 0.9999 | 30        |
| picoxystrobin           | 5           | 6                | 5 - 200                   | 0.9932 | 19        |
| piperonyl butoxide      | 5           | 6                | 5 - 500                   | 0.9995 | 37        |
| pirimicarb              | 5           | 6                | 5 - 200                   | 0.9908 | 14        |
| pirimicarb-desmethyl    | 5           | 6                | 5 - 200                   | 0.9913 | 22        |
| pirimicarb-desmethyldformamido | 100 | 6         | 100 - 500                 | 0.9860 | 17        |
| primisulfuron-Methyl    | 5           | 6                | 5 - 200                   | 0.9996 | 36        |
| procloraz               | 5           | 6                | 5 - 200                   | 0.9992 | 23        |
| promecarb               | 5           | 6                | 5 - 200                   | 0.9999 | 37        |
| prometon                | 5           | 6                | 5 - 200                   | 0.9980 | 28        |
| prometryn               | 5           | 6                | 5 - 200                   | 0.9926 | 20        |
| propamocarb             | 5           | 6                | 5 - 200                   | 0.9994 | 34        |
| propargite              | 5           | 6                | 5 - 200                   | 0.9999 | 8         |
| propazine               | 5           | 6                | 5 - 200                   | 0.9948 | 27        |
| propham                 | 100         | 6                | 100 - 500                 | 0.9960 | 18        |
| propiconazole           | 5           | 6                | 5 - 200                   | 0.9997 | 28        |
| propoxur                | 5           | 6                | 5 - 200                   | 0.9990 | 78        |
| propoxycarbazone        | 10          | 6                | 10 - 350                  | 0.9898 | 47        |
| proquinazid             | 5           | 6                | 5 - 200                   | 0.9989 | 16        |
| prosulfocarb            | 5           | 6                | 5 - 200                   | 0.9999 | 20        |
| prosulfuron             | 5           | 6                | 5 - 200                   | 0.9998 | 22        |
| pymetroxine             | 100         | 6                | 100 - 500                 | 0.9621 | 75        |
| pyraclostrobin          | 5           | 6                | 5 - 200                   | 0.9998 | 13        |
| pyraflufen-ethyl        | 5           | 6                | 5 - 200                   | 0.9999 | 29        |
| pyrethrin I             | 10          | 6                | 10 - 350                  | 0.9996 | 18        |
| pyrethrin II            | 10          | 6                | 10 - 350                  | 0.9918 | 48        |
| pyridate                | n.a.        | n.a.             | n.a.                      | n.a.   | n.a.      |
| pyridate-metabol (6-chloro-3-phenylpyridazin-4-ol) | 5 | 6 | 5 - 200 | 0.9966 | 27       |
| pyrimethanol            | 5           | 6                | 5 - 200                   | 0.9999 | 28        |
| pyrimidifen             | 5           | 6                | 5 - 200                   | 0.9995 | 25        |
| pyriproxyfen            | 5           | 6                | 5 - 200                   | 0.9924 | 19        |
| quizalofop-ethyl        | 5           | 6                | 5 - 200                   | 0.9982 | 15        |
| rabenzazole             | 5           | 6                | 5 - 200                   | 0.9997 | 34        |
| rimsulfuron             | 5           | 6                | 5 - 200                   | 0.9998 | 35        |
| rotenone                | 5           | 6                | 5 - 200                   | 0.9999 | 16        |
| sebuthylazine           | 5           | 6                | 5 - 200                   | 0.9939 | 29        |
| Analyte                  | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | $R^2$  | MU [%] |
|-------------------------|-------------|------------------|---------------------------|-------|--------|
| sethoxydim              | 5           | 6                | 5 - 200                   | 0.9996 | 42     |
| silaflufen              | 5           | 6                | 5 - 200                   | 0.9999 | 12     |
| simazine                | 5           | 6                | 5 - 200                   | 0.9993 | 39     |
| simazine-desethyl       | 100         | 4                | 100 - 500                 | 0.9805 | 15     |
| simeconazol             | 100         | 4                | 100 - 500                 | 0.9945 | 16     |
| spinosyn A<sup>d</sup>  | 100         | 4                | 100 - 500                 | 0.9778 | 11     |
| spinosyn D<sup>d</sup>  | 100         | 4                | 100 - 500                 | 0.9999 | 11     |
| spirodiclofen           | 5           | 6                | 5 - 200                   | 0.9998 | 103    |
| spiromesifen            | 10          | 6                | 10 - 350                  | 0.9994 | 27     |
| spirotetratram         | 5           | 6                | 5 - 200                   | 0.9965 | 23     |
| spiroxamine             | 5           | 6                | 5 - 200                   | 0.9976 | 28     |
| tebuconazole           | 10          | 6                | 10 - 350                  | 0.9990 | 23     |
| tebufenozide            | 5           | 6                | 5 - 200                   | 0.9992 | 26     |
| tebufenpyrad            | 10          | 6                | 10 - 350                  | 0.9997 | 37     |
| tetraethyl dipiphosphate| 5           | 6                | 5 - 200                   | 0.9946 | 23     |
| terbacil                | 10          | 6                | 10 - 350                  | 0.9982 | 34     |
| terbufos                | 10          | 6                | 10 - 350                  | 0.9995 | 26     |
| terbufos-sulfone        | 5           | 6                | 5 - 200                   | 0.9999 | 37     |
| terbufos-sulfoxide      | 5           | 6                | 5 - 200                   | 0.9976 | 21     |
| terbuthylazine          | 5           | 6                | 5 - 200                   | 0.9927 | 28     |
| terbuthylazine-desethyl | 5           | 6                | 5 - 200                   | 0.9922 | 17     |
| terbutryn               | 5           | 6                | 5 - 100                   | 0.9981 | 13     |
| tetaconazole            | 5           | 6                | 5 - 200                   | 0.9999 | 30     |
| thiaembazdole           | 5           | 6                | 5 - 200                   | 0.9960 | 26     |
| thiaembazole-5-hydroxy  | 5           | 6                | 5 - 200                   | 0.9967 | 18     |
| thiacylprid             | 5           | 6                | 5 - 200                   | 0.9912 | 13     |
| thiametoxam             | 5           | 6                | 5 - 200                   | 0.9990 | 20     |
| thiazafluron            | 100         | 4                | 100 - 500                 | 0.9855 | 10     |
| thifensulfuron-methyl   | 5           | 6                | 5 - 200                   | 0.9971 | 26     |
| thiodicarb              | 100         | 4                | 100 - 500                 | 0.9847 | 29     |
| thiofanox               | 100         | 4                | 100 - 500                 | 0.9934 | 42     |
| thiofanox-sulfone       | 10          | 6                | 10 - 350                  | 0.9999 | 33     |
| thiofanox-sulfoxide     | 100         | 4                | 100 - 500                 | 0.9993 | 16     |
| thiometon               | 100         | 4                | 100 - 500                 | 0.9879 | 28     |
| thionazin               | 5           | 6                | 5 - 200                   | 0.9997 | 24     |
| thiophanate-ethyl       | n.a.        | n.a.             | n.a.                      | n.a.  | n.a.   |
| thiophanate-methyl      | n.a.        | n.a.             | n.a.                      | n.a.  | n.a.   |
| tiocarbazil             | 100         | 4                | 100 - 500                 | 0.9988 | 17     |
| triadimefon             | 5           | 6                | 5 - 200                   | 0.9998 | 21     |
| triadimenol             | 5           | 6                | 5 - 200                   | 0.9999 | 18     |
| triamiphos              | 5           | 6                | 5 - 200                   | 0.9992 | 31     |
| triasulfuron            | 5           | 6                | 5 - 200                   | 0.9962 | 21     |
| triazamate              | 10          | 6                | 10 - 350                  | 0.9927 | 31     |
| triazophos              | 5           | 6                | 5 - 200                   | 0.9981 | 32     |
| tribenuron-methyl       | 5           | 6                | 5 - 200                   | 0.9976 | 31     |
| Analyte                      | LOQ [µg/kg] | Evaluated levels | Calibration range [µg/kg] | $R^2$    | MU [%] \(^a\) |
|-----------------------------|-------------|------------------|---------------------------|----------|----------------|
| trichlorfon                 | n.a.        | n.a.             | n.a.                      | n.a.     | n.a.           |
| tricyclazole                | 5           | 6                | 5 - 200                   | 0.9920   | 20             |
| tridemorph                  | 100         | 4                | 100 - 500                 | 0.9989   | 17             |
| trietazine                  | 5           | 6                | 5 - 200                   | 0.9991   | 19             |
| trifloxystrobin             | 5           | 6                | 5 - 200                   | 0.9998   | 15             |
| trifloxysulfuron            | 5           | 6                | 5 - 200                   | 0.9999   | 23             |
| triflumizole                | 5           | 6                | 5 - 200                   | 0.9959   | 19             |
| triflumizole-metabole FM-6-1| 5           | 6                | 5 - 200                   | 0.9996   | 28             |
| triflumuron                 | 5           | 6                | 5 - 200                   | 0.9999   | 25             |
| triflusulfuron-methyl       | 5           | 6                | 5 - 200                   | 0.9952   | 25             |
| triforine                   | 5           | 6                | 5 - 200                   | 0.9996   | 31             |
| triticonazole               | 5           | 6                | 5 - 200                   | 0.9996   | 40             |
| uniconazole                 | 100         | 4                | 100 - 500                 | 0.9964   | 17             |
| vamidothion                 | 5           | 6                | 5 - 100                   | 0.9963   | 25             |
| vamidothion-sulfone         | 5           | 6                | 5 - 200                   | 0.9948   | 31             |
| vamidothion-sulfoxide       | 5           | 6                | 5 - 200                   | 0.9999   | 8              |
| zoxamide                    | 5           | 6                | 5 - 200                   | 0.9968   | 26             |

\(^a\)Evaluated at spiking level of LOQ.

\(^b\)Mixture of B1a and B1b. Isomeric ratio: B1a 93.3%, B1b 6.6%.

\(^c\)Mixture of B1a and B1b. Isomeric ratio unknown.

\(^d\)Mixture of A and B. Isomeric ratio: A 84%, B 16%.
| Analyte                               | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|---------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                       | $R_e$ (RSD) [%] | $R_{SDr}$ [%] | $R$ [%]        | $R_e$ (RSD) [%] | $R_{SDr}$ [%] | $R$ [%]        | $R_e$ (RSD) [%] | $R_{SDr}$ [%] | $R$ [%]        |
| 3,4,5-trimethacarb                    | 114 (8)         | 8.56            | 12.2            | 117 (12)        | 12.1            | 12.1           | 107 (4)         | 6.31            | 12.0           | 113 (4)         | 6.99            | 4.88           | 106 (5)         | 4.04            | 7.03           |
| acephate                              | -               | -               | -               | -               | -               | -              | 99 (3)           | 5.66            | 6.39           | 92 (5)           | 3.79            | 4.89           | 92 (5)           | 5.06            | 7.01           |
| acetamiprid                           | 100 (6)         | 8.16            | 6.09            | 84 (6)          | 7.26            | 8.20           | 103 (3)         | 6.94            | 6.11           | 96 (2)           | 6.46            | 2.55           | 105 (3)         | 4.82            | 4.03           |
| acetochlor                            | -               | -               | -               | -               | -               | -              | 103 (3)         | 3.37            | 11.3           | 100 (6)         | 11.4            | 7.72           | 97 (4)          | 18.6            | 5.32           |
| alachlor                              | -               | -               | -               | -               | -               | -              | -               | -               | -              | -               | -               | -              | 93 (5)          | 6.62            | 5.56           | 106 (2)         | 4.96            | 5.64           |
| aldicarb                              | 103 (8)         | 7.53            | 8.24            | 113 (9)         | 9.61            | 10.6           | 97 (4)          | 7.73            | 5.65           | 95 (3)          | 8.09            | 4.62           | 98 (3)          | 8.52            | 4.13           |
| aldicarb-sulfoxide                    | 91 (7)          | 10.8            | 5.55            | 106 (3)         | 8.37            | 7.70           | 96 (9)          | 6.82            | 6.48           | 99 (3)          | 3.37            | 3.80           | 98 (1)          | 3.98            | 3.90           |
| aldoxy carb                           | 98 (7)          | 6.17            | 8.85            | 94 (3)          | 5.79            | 4.93           | 94 (7)          | 6.71            | 8.63           | 103 (4)         | 6.75            | 5.07           | 110 (4)         | 5.39            | 3.64           |
| ametocotradin                         | 106 (8)         | 12.7            | 12.6            | 93 (7)          | 13.6            | 8.28           | 117 (5)         | 11.6            | 8.06           | 100 (5)         | 6.91            | 7.47           | 106 (4)         | 3.98            | 4.95           |
| ametryn                               | 95 (5)          | 8.10            | 5.39            | 108 (3)         | 8.13            | 7.66           | 99 (5)          | 6.59            | 6.83           | 107 (4)         | 4.58            | 5.63           | 98 (4)          | 4.34            | 3.76           |
| amidosulfuron                         | 92 (5)          | 7.37            | 8.04            | 101 (5)         | 4.62            | 9.14           | 102 (7)         | 6.26            | 7.12           | 90 (5)          | 8.83            | 5.85           | 93 (3)          | 8.38            | 3.98           |
| aminocarb                             | 102 (3)         | 6.87            | 10.2            | 109 (6)         | 6.84            | 10.2           | 104 (2)         | 6.10            | 11.4           | 110 (5)         | 5.43            | 6.34           | 110 (1)         | 5.04            | 5.99           |
| aminopyralid                          | -               | -               | -               | -               | -               | -              | -               | -               | -              | -               | -               | -              | 65 (5)          | 12.3            | 5.07           | 65 (2)          | 9.28            | 5.37           |
| amitraz                              | -               | -               | -               | -               | -               | -              | -               | -               | -              | -               | -               | -              | 24 (17)         | 59.0            | 30.4           | 25 (8)          | 65.5            | 27.6           |
| amitraz-amide                         | -               | -               | -               | -               | -               | -              | -               | -               | -              | -               | -               | -              | 101 (7)         | 8.52            | 7.95           | 102 (6)         | 6.61            | 4.46           | 110 (2)         | 3.10            | 5.72           |
| amitraz-amidin                        | 109 (5)         | 19.0            | 7.73            | 107 (5)         | 22.3            | 8.24           | 105 (7)         | 21.8            | 9.38           | 105 (5)         | 13.5            | 13.2           | 89 (14)         | 10.5            | 11.2           |
| ancyimidol                            | -               | -               | -               | -               | -               | -              | -               | -               | -              | -               | -               | -              | 105 (5)         | 8.43            | 9.15           | 86 (5)          | 4.77            | 7.25           | 94 (4)          | 4.39            | 4.69           |
| atrazine                              | 95 (4)          | 10.3            | 5.22            | 110 (3)         | 5.20            | 7.97           | 101 (5)         | 6.09            | 5.31           | 96 (7)          | 6.88            | 5.54           | 100 (5)         | 6.82            | 3.70           |
| atrazine-desethyl-desisopropyl        | 96 (7)          | 6.35            | 6.34            | 103 (4)         | 4.23            | 4.54           | 105 (5)         | 5.32            | 8.47           | 93 (3)          | 5.99            | 3.57           | 96 (3)          | 3.16            | 4.02           |
| avermectin B1a                        | -               | -               | -               | -               | -               | -              | -               | -               | -              | -               | -               | -              | 107 (13)        | 24.9            | 14.7           | 119 (10)        | 46.7            | 15.2           |
| avermectin B1b                        | n.a.            | n.a.            | n.a.            | n.a.            | n.a.            | n.a.           | n.a.            | n.a.            | n.a.           | n.a.            | n.a.            | n.a.           | n.a.            | n.a.            | n.a.            | n.a.           | n.a.            | n.a.            |
| azacarbazole                          | 102 (5)         | 6.76            | 9.94            | 92 (4)          | 8.21            | 7.66           | 101 (8)         | 6.02            | 7.19           | 99 (8)          | 7.14            | 6.94           | 97 (3)          | 4.34            | 3.38           |
| azamethiphos                          | 110 (6)         | 6.19            | 10.2            | 118 (4)         | 4.88            | 10.4           | 109 (5)         | 4.80            | 10.4           | 97 (4)          | 4.42            | 4.72           | 96 (3)          | 3.33            | 6.49           |
| aziprotryne                           | 105 (3)         | 16.0            | 14.0            | 102 (3)         | 12.9            | 6.62           | 112 (4)         | 6.84            | 6.42           | 110 (4)         | 6.57            | 7.24           | 107 (2)         | 5.21            | 4.11           |
| Analyte                              | $R_E$ (%) | $RSD_r$ [%] | $RSD$ [%] | $R_E$ (%) | $RSD_r$ [%] | $RSD$ [%] | $R_E$ (%) | $RSD_r$ [%] | $RSD$ [%] | $R_E$ (%) | $RSD_r$ [%] | $RSD$ [%] |
|-------------------------------------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|
| azoxystrobin                        | 92 (4)    | 7.77        | 4.34      | 107 (5)   | 5.55        | 6.37      | 99 (4)    | 5.88        | 3.67      | 93 (4)    | 4.53        | 6.26      |
| benalaxyl                           | 99 (3)    | 7.63        | 4.66      | 101 (7)   | 8.75        | 8.84      | 118 (3)   | 7.94        | 13.1      | 96 (4)    | 4.16        | 4.00      |
| bendiocarb                          | -         | -           | -         | -         | -           | -         | 42 (9)    | 11.8        | 30.4      | 425 (6)   | 10.1        | 41.5      |
| benfuracarb                         | -         | -           | -         | -         | -           | -         | 31 (6)    | 36.5        | 26.8      | 26 (13)   | 38.0        | 23.4      |
| benomyl                             | 99 (5)    | 7.53        | 8.48      | 111 (3)   | 11.0        | 8.31      | 105 (5)   | 7.40        | 7.74      | 95 (6)    | 8.15        | 6.53      |
| bensulfuron-methyl                  | 103 (4)   | 5.14        | 8.05      | 94 (5)    | 6.17        | 6.63      | 93 (3)    | 5.80        | 4.84      | 98 (5)    | 5.66        | 5.18      |
| benzthiavalicarb-isopropyl          | 102 (8)   | 11.3        | 9.70      | 105 (6)   | 7.92        | 8.94      | 103 (3)   | 5.66        | 5.06      | 97 (4)    | 5.68        | 3.89      |
| bitertanol                          | -         | -           | -         | -         | -           | -         | 102 (6)   | 12.8        | 12.0      | 97 (8)    | 11.4        | 10.7      |
| bosalid                             | 97 (8)    | 7.86        | 8.54      | 104 (5)   | 5.80        | 6.96      | 110 (5)   | 7.98        | 8.76      | 97 (7)    | 6.04        | 5.61      |
| bromacil                            | 102 (3)   | 5.92        | 7.83      | 110 (5)   | 7.28        | 8.65      | 134 (5)   | 7.29        | 20.2      | 99 (3)    | 6.30        | 2.36      |
| bromoconazole                       | -         | -           | -         | -         | -           | -         | 99 (8)    | 7.38        | 6.34      | 94 (4)    | 6.29        | 7.26      |
| bupirimate                          | 96 (8)    | 8.29        | 9.35      | 99 (5)    | 6.64        | 5.86      | 112 (4)   | 5.84        | 8.50      | 99 (5)    | 5.59        | 5.27      |
| buprofezin                          | 105 (5)   | 9.14        | 7.79      | 108 (7)   | 9.23        | 7.06      | 104 (6)   | 6.68        | 8.83      | 102 (6)   | 5.49        | 5.95      |
| butachlor                           | -         | -           | -         | -         | -           | -         | 111 (6)   | 6.04        | 12.4      | 92 (5)    | 8.92        | 6.19      |
| butocarboxim                        | 95 (7)    | 7.57        | 7.66      | 106 (7)   | 7.72        | 9.94      | 105 (6)   | 5.02        | 6.36      | 96 (3)    | 6.48        | 4.71      |
| butocarboxim-sulfoxide              | 98 (4)    | 6.24        | 5.58      | 107 (3)   | 6.14        | 7.06      | 101 (3)   | 3.72        | 8.68      | 94 (3)    | 3.96        | 3.12      |
| butoxytocarboxim                    | 97 (8)    | 7.80        | 7.38      | 111 (7)   | 7.00        | 8.19      | 103 (3)   | 5.42        | 8.68      | 100 (4)   | 4.65        | 5.73      |
| buturon                             | 109 (9)   | 7.38        | 11.9      | 110 (7)   | 8.59        | 7.20      | 113 (7)   | 6.60        | 11.1      | 104 (3)   | 4.54        | 6.02      |
| cadusafos                           | 97 (5)    | 7.40        | 8.06      | 108 (6)   | 8.07        | 10.0      | 110 (5)   | 6.56        | 9.75      | 97 (2)    | 4.18        | 5.24      |
| carbaryl                            | 39 (6)    | 9.44        | 71.3      | 35 (14)   | 13.2        | 60.8      | 29 (4)    | 9.53        | 47.0      | 1088 (10) | 6.95        | 22.3      |
| carbendazim                         | 88 (1)    | 5.77        | 4.22      | 107 (3)   | 5.18        | 6.75      | 95 (4)    | 5.79        | 6.07      | 88 (5)    | 5.36        | 5.41      |
| carbofuran                          | 111 (5)   | 7.94        | 22.5      | 111 (6)   | 7.91        | 19.7      | 109 (3)   | 8.34        | 17.9      | 170 (4)   | 4.57        | 7.01      |
| carbofuran-3-hydroxy                | 91 (6)    | 9.99        | 66.3      | 100 (13)  | 10.7        | 67.5      | 84 (8)    | 7.74        | 66.8      | 389 (6)   | 6.09        | 8.84      |
| carbosulfan                         | 11 (16)   | 37.7        | 35.4      | 12 (8)    | 41.3        | 36.3      | 14 (6)    | 46.0        | 22.1      | 10 (15)   | 50.5        | 40.0      |
|                                    |   67.9    | 46.6        |   849     |         |             |             |           |             |           |           |             |           |

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| Analyte          | Spiking level 1 |         |         |         |         |         |         |         |         |
|------------------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                  | $R_E$ (% RSD)   | RSD [%] | R [%]  | $R_E$ | RSD [%] | R [%]  | $R_E$ | RSD [%] | R [%]  |
| carboxin         | 93 (4)          | 7.69    | 5.47    | 102 (3) | 6.27 | 4.05 | 109 (5) | 7.25 | 10.1 | 104 (4) | 4.48 | 6.59 | 106 (2) | 3.72 | 3.72 |
| chlorantraniliprole | 105 (12)        | 9.57    | 9.23    | 107 (10) | 10.6 | 11.7 | 110 (8) | 7.25 | 6.77 | 108 (4) | 6.75 | 4.16 | 100 (3) | 3.48 | 5.34 |
| chlorbromuron    | 90 (5)          | 9.22    | 6.21    | 116 (6) | 7.50 | 14.1 | 110 (10) | 7.61 | 12.5 | 97 (5) | 5.77 | 4.83 | 99 (4) | 3.65 | 5.33 |
| chlorfluanide    | 97 (8)          | 8.96    | 10.2    | 107 (4) | 8.54 | 6.03 | 113 (5) | 9.64 | 10.5 | 97 (5) | 9.68 | 6.63 | 95 (4) | 6.51 | 4.63 |
| chloridazon      | 105 (4)         | 8.93    | 11.7    | 107 (10) | 8.33 | 10.6 | 113 (3) | 4.83 | 11.5 | 94 (10) | 8.15 | 7.08 | 99 (2) | 3.11 | 3.88 |
| chloroxuron      | 99 (14)         | 12.8    | 10.7    | 101 (6) | 9.45 | 10.4 | 105 (11) | 12.4 | 11.6 | 89 (5) | 7.73 | 7.32 | 113 (7) | 7.24 | 7.60 |
| chloropropham    | -               | -       | -       | 100 (6) | 8.15 | 11.0 | 93 (7) | 7.58 | 8.21 |
| chlorsulfuron    | 90 (6)          | 9.11    | 9.95    | 93 (12) | 7.81 | 12.1 | 114 (6) | 6.46 | 8.61 | 91 (4) | 7.33 | 4.34 | 99 (2) | 8.36 | 10.6 |
| clortolurol      | 102 (2)         | 8.08    | 4.77    | 104 (2) | 7.68 | 4.40 | 100 (5) | 5.44 | 7.11 | 100 (3) | 4.97 | 3.71 | 95 (3) | 3.38 | 3.56 |
| cinidon-ethyl     | -               | -       | -       | 109 (2) | 6.81 | 8.26 | 95 (2) | 6.16 | 10.8 | 94 (1) | 1.69 | 9.61 |
| cinosulfuron     | 104 (3)         | 4.95    | 6.98    | 98 (7) | 6.28 | 8.53 | 99 (3) | 6.40 | 8.07 | 98 (4) | 7.00 | 5.82 | 97 (5) | 3.93 | 4.47 |
| clethodim        | 111 (10)        | 9.07    | 9.81    | 113 (9) | 11.7 | 9.22 | 100 (12) | 10.6 | 10.6 | 100 (7) | 5.65 | 6.56 | 95 (8) | 6.30 | 8.07 |
| clodinafop-propargyl | 100 (5)        | 7.35    | 5.66    | 103 (2) | 5.91 | 4.30 | 114 (5) | 7.40 | 9.84 | 97 (4) | 4.92 | 3.99 | 101 (2) | 2.65 | 3.02 |
| clofentezine      | 110 (10)        | 9.74    | 9.80    | 105 (3) | 8.98 | 9.91 | 97 (3) | 8.94 | 8.51 | 104 (5) | 7.29 | 5.54 | 101 (4) | 3.77 | 4.23 |
| clomazone         | 99 (4)          | 8.24    | 10.7    | 108 (4) | 7.82 | 6.09 | 102 (7) | 6.99 | 6.06 | 101 (7) | 6.34 | 5.63 | 101 (1) | 4.01 | 3.48 |
| clothianidin      | -               | -       | -       | 98 (6) | 6.64 | 8.49 | 88 (8) | 6.26 | 9.61 | 95 (4) | 4.12 | 3.86 |
| cyanazine         | 88 (12)         | 12.5    | 13.3    | 93 (5) | 7.05 | 8.59 | 113 (9) | 8.26 | 8.58 | 102 (5) | 6.06 | 4.54 | 97 (3) | 4.34 | 4.09 |
| cyazofamid        | -               | -       | -       | 106 (5) | 8.54 | 7.53 | 94 (5) | 6.60 | 8.69 | 108 (4) | 5.48 | 5.37 |
| cymoxanil         | -               | -       | -       | -       | -    | -    | 204 (5) | 7.87 | 21.5 | 197 (7) | 6.63 | 18.0 |
| cyproconazole     | 100 (4)         | 5.85    | 5.85    | 110 (4) | 3.79 | 9.06 | 114 (5) | 4.55 | 12.0 | 100 (3) | 5.44 | 4.53 | 103 (3) | 4.49 | 3.81 |
| cyprodinil        | -               | -       | -       | 105 (7) | 9.38 | 9.44 | 105 (4) | 6.03 | 6.07 | 98 (3) | 6.77 | 3.62 |
| cyprofuram        | 102 (5)         | 7.77    | 7.16    | 105 (6) | 11.2 | 7.59 | 95 (9) | 10.1 | 6.49 | 96 (4) | 6.11 | 5.36 | 99 (2) | 3.84 | 4.80 |
| cyromazine        | 99 (10)         | 14.8    | 16.2    | 87 (6) | 13.7 | 7.26 | 84 (6) | 16.6 | 12.4 | 85 (10) | 10.9 | 9.18 | 81 (5) | 9.65 | 4.56 |
| daminozide        | -               | -       | -       | -       | -    | -    | 84 (5) | 6.20 | 6.66 | 84 (3) | 3.32 | 12.9 |
| demeton           | 95 (9)          | 11.0    | 8.05    | 107 (2) | 10.4 | 9.61 | 93 (5) | 8.61 | 5.69 | 95 (4) | 5.52 | 5.32 | 106 (4) | 5.98 | 6.55 |
| demeton-S-methyl  | 104 (9)         | 8.77    | 7.38    | 97 (6) | 7.33 | 7.42 | 95 (6) | 7.16 | 4.46 | 93 (4) | 7.13 | 5.96 | 93 (4) | 4.19 | 4.91 |
| Analyte                                | $R_E$ (RSD) [%] | RSDr [%] | RSD [%] | $R_E$ (RSD) [%] | RSDr [%] | RSD [%] | $R_E$ (RSD) [%] | RSDr [%] | RSD [%] | $R_E$ (RSD) [%] | RSDr [%] | RSD [%] |
|----------------------------------------|-----------------|----------|---------|-----------------|----------|---------|-----------------|----------|---------|-----------------|----------|---------|
| demeton-S-methyl-sulfone               | 96 (6)          | 6.65     | 5.96    | 108 (7)         | 5.19     | 7.93    | 105 (4)         | 3.32     | 11.3   | 93 (5)          | 4.99     | 7.36    |
| desmedipham                            | n.a.            | n.a.     | n.a.    | n.a.            | n.a.     | n.a.    | n.a.            | n.a.     | n.a.    | n.a.            | n.a.     | n.a.    |
| desmetryn                              | 99 (6)          | 6.77     | 7.44    | 107 (4)         | 5.76     | 6.29    | 103 (4)         | 6.18     | 5.97   | 98 (3)          | 4.56     | 4.04    |
| diazinon                               | 95 (3)          | 7.59     | 8.74    | 91 (6)          | 8.19     | 6.72    | 103 (5)         | 6.14     | 7.08   | 98 (3)          | 6.55     | 3.46    |
| dichlorvos                             | -               | -        | -       | -               | -        | -       | -               | -        | -      | 92 (4)          | 5.78     | 7.26    |
| diclobutrazol                          | -               | -        | -       | -               | -        | -       | -               | -        | -      | 102 (5)         | 7.18     | 5.26    |
| diethofencarb                          | 100 (6)         | 16.3     | 8.71    | 103 (5)         | 12.4     | 9.49    | 101 (13)        | 14.2     | 9.20   | 97 (10)         | 9.76     | 9.60    |
| diethyltoluamide                       | 101 (3)         | 12.7     | 8.57    | 99 (6)          | 11.2     | 5.43    | 99 (4)          | 8.88     | 6.07   | 104 (4)         | 4.38     | 6.14    |
| difenoconazole                         | 94 (6)          | 7.62     | 6.78    | 111 (6)         | 8.58     | 7.63    | 109 (5)         | 10.7     | 7.60  | 93 (10)         | 8.88     | 6.49    |
| difenoxuron                            | 92 (5)          | 13.1     | 7.05    | 87 (4)          | 10.3     | 8.08    | 99 (3)          | 6.35     | 4.76  | 91 (7)          | 4.94     | 5.97    |
| diflubenzuron                          | 97 (3)          | 7.44     | 7.79    | 112 (8)         | 7.73     | 7.60    | 108 (6)         | 8.07     | 9.88  | 99 (5)          | 6.20     | 4.15    |
| diflufenican                           | 110 (5)         | 15.4     | 9.31    | 113 (8)         | 11.3     | 10.1    | 115 (9)         | 11.8     | 12.3  | 98 (4)          | 8.24     | 5.96    |
| dimefox                                | -               | -        | -       | -               | -        | -       | -               | -        | -      | -               | -        | -      |
| dimefuron                              | 96 (4)          | 9.74     | 7.05    | 99 (4)          | 7.20     | 9.88    | 92 (3)          | 11.2     | 6.47  | 99 (6)          | 7.41     | 5.63    |
| dimethenamid                           | 111 (6)         | 8.41     | 12.4    | 112 (8)         | 7.49     | 12.8    | 109 (4)         | 4.80     | 9.26  | 100 (4)         | 4.59     | 4.81    |
| dimethoate                             | 102 (4)         | 6.13     | 8.21    | 102 (5)         | 6.01     | 4.14    | 107 (4)         | 5.37     | 7.04  | 97 (3)          | 5.47     | 3.78    |
| dimethomorph                           | 110 (5)         | 9.40     | 10.2    | 104 (3)         | 10.1     | 3.99    | 112 (3)         | 7.22     | 12.3  | 103 (4)         | 6.44     | 5.23    |
| dimetilan                              | 94 (3)          | 9.67     | 4.64    | 105 (4)         | 8.58     | 9.36    | 104 (6)         | 6.66     | 11.2 | 96 (5)          | 4.54     | 3.83    |
| dimoxysobrin                           | 107 (4)         | 5.77     | 9.00    | 108 (8)         | 8.04     | 7.52    | 102 (7)         | 9.25     | 10.2 | 97 (3)          | 6.84     | 4.79    |
| dinofuran                              | 99 (5)          | 7.60     | 6.55    | 107 (8)         | 8.39     | 8.24    | 103 (5)         | 5.77     | 9.20 | 100 (4)         | 4.63     | 5.08    |
| disulfoton                             | 89 (5)          | 15.1     | 17.0    | 102 (10)        | 11.7     | 8.15    | 111 (11)        | 13.0     | 14.1 | 97 (3)          | 6.37     | 3.63    |
| disulfoton-sulfone                     | 100 (6)         | 10.0     | 10.5    | 103 (7)         | 7.38     | 10.8    | 101 (10)        | 7.83     | 11.2 | 90 (4)          | 5.96     | 5.78    |
| disulfoton-sulfoxide                   | 107 (4)         | 8.49     | 6.72    | 109 (5)         | 6.51     | 8.44    | 109 (2)         | 4.87     | 11.3 | 91 (4)          | 5.48     | 8.03    |
| diuron                                 | 98 (9)          | 8.43     | 6.78    | 98 (7)          | 8.54     | 6.99    | 100 (5)         | 7.54     | 7.08 | 94 (5)          | 5.83     | 5.12    |
| dodine                                 | n.a.            | n.a.     | n.a.    | n.a.            | n.a.     | n.a.    | n.a.            | n.a.     | n.a.    | n.a.            | n.a.     | n.a.    |
| emamectin B1a                          | 94 (13)         | 8.14     | 11.8    | 112 (6)         | 8.85     | 14.8    | 97 (18)         | 18.2     | 10.5 | 109 (19)        | 25.2     | 14.6    |
| emamectin B1b                          | 96 (20)         | 18.0     | 31.5    | 104 (14)        | 16.7     | 23.4    | 127 (21)        | 23.7     | 20.7 | 99 (22)         | 25.4     | 19.0    |

n.a. = not applicable
| Analyte                  | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                         | $R_e$ (RSD) [%] | RSDr [%] R [%]  | $R_e$ (RSD) [%] | RSDr [%] R [%]  | $R_e$ (RSD) [%] | RSDr [%] R [%]  |
| epoxiconazole           | 94 (9)          | 9.54 10.4       | 113 (2) 7.29 13.0 | 85 (8) 10.3 10.1 | 94 (5) 6.24 4.46 | 103 (3) 3.10 3.82 |
| ethiofencarban          | 84 (15)         | 13.2 88.2       | 96 (12) 14.3 87.7 | 100 (7) 9.63 88.9 | 594 (6) 6.59 34.3 | 544 (6) 4.45 21.1 |
| ethiofencarb-sulfone    | -               | -               | -               | -               | 322 (2) 7.93 84.3 | 337 (5) 6.82 80.4 |
| ethiofencarb-sulfoxide  | -               | -               | -               | -               | 783 (3) 5.44 81.4 | 876 (4) 6.33 81.7 |
| ethiprole               | 107 (9)         | 12.2 11.5       | 100 (5) 7.79 7.94 | 103 (3) 7.84 8.60 | 96 (5) 7.95 5.12 | 99 (4) 4.59 4.90 |
| ethofumesate            | 106 (14)        | 11.3 14.1       | 103 (5) 11.3 6.25 | 96 (9) 7.07 8.34 | 96 (5) 6.94 6.02 | 100 (3) 6.21 2.82 |
| ethofumesate-2-keto     | -               | -               | -               | -               | 90 (7) 7.37 12.5 | 100 (4) 5.33 4.79 |
| ethopros                | 105 (7)         | 11.5 8.85       | 101 (9) 10.4 6.80 | 98 (3) 7.62 5.47 | 97 (8) 5.40 6.54 | 97 (2) 3.27 4.89 |
| etofenprox              | 103 (10)        | 16.5 10.8       | 100 (7) 15.8 7.87 | 106 (7) 16.4 9.86 | 106 (10) 9.41 8.31 | 106 (4) 7.11 5.21 |
| etoxazole               | 97 (8)          | 8.96 7.97       | 103 (3) 8.43 4.14 | 99 (6) 8.46 6.61 | 97 (4) 5.01 4.37 | 95 (4) 3.14 3.67 |
| famoxadon               | 107 (7)         | 9.56 8.55       | 115 (11) 9.82 12.2 | 119 (6) 7.70 15.2 | 97 (4) 5.97 6.72 | 95 (3) 2.94 7.21 |
| fenamidone              | 99 (4)          | 5.28 4.88       | 99 (3) 7.41 4.45 | 104 (3) 7.30 8.38 | 103 (5) 5.15 7.36 | 101 (6) 4.78 4.08 |
| fenamiphos              | 104 (7)         | 8.05 12.4       | 109 (4) 8.10 5.92 | 113 (4) 5.48 13.3 | 96 (5) 6.13 5.95 | 98 (2) 3.69 3.70 |
| fenamiphos-sulfone      | 116 (9)         | 10.4 14.4       | 97 (7) 5.93 11.1 | 112 (4) 7.41 10.9 | 97 (4) 5.77 8.12 | 101 (2) 5.00 5.81 |
| fenamiphos-sulfoxide    | 94 (12)         | 11.4 10.4       | 115 (5) 9.35 15.7 | 106 (5) 7.54 7.61 | 94 (3) 5.93 6.38 | 102 (4) 6.39 5.47 |
| fenarimol               | -               | -               | -               | -               | 105 (5) 5.73 12.7 | 95 (3) 5.05 3.96 | 93 (1) 4.04 4.31 |
| fenazaquin              | 98 (3)          | 11.3 2.85       | 108 (3) 10.7 8.07 | 119 (2) 9.40 11.5 | 98 (4) 6.22 3.69 | 101 (2) 2.25 4.29 |
| fenbucarnazol           | 105 (7)         | 13.7 13.5       | 104 (6) 9.67 8.07 | 110 (6) 7.85 12.8 | 102 (6) 6.17 5.01 | 103 (3) 3.38 8.26 |
| fenhexamid              | -               | -               | -               | -               | 110 (6) 7.91 16.8 | 110 (9) 7.57 9.14 | 97 (4) 4.56 5.66 |
| fenobucarb              | 106 (6)         | 13.8 11.9       | 96 (9) 13.2 9.19 | 102 (5) 9.01 11.5 | 116 (6) 8.68 6.69 | 116 (3) 4.06 9.05 |
| fenoxaprop-P-ethyl      | -               | -               | -               | -               | 116 (3) 5.46 9.56 | 93 (5) 5.60 4.36 | 101 (1) 3.30 2.86 |
| fenoxycarb              | 103 (7)         | 9.77 8.29       | 96 (7) 7.86 6.37 | 104 (7) 9.70 8.65 | 96 (2) 6.55 3.65 | 97 (3) 2.77 3.99 |
| fenpiconil              | 103 (8)         | 8.92 15.0       | 90 (7) 9.67 9.08 | 90 (12) 8.06 8.24 | 92 (5) 7.23 6.97 | 101 (5) 6.59 6.86 |
| fenpropidin             | 99 (6)          | 11.8 5.59       | 106 (3) 10.5 3.55 | 103 (5) 11.3 10.6 | 105 (3) 9.26 5.34 | 98 (3) 3.76 4.57 |
| fenpropimorph           | 99 (4)          | 12.2 7.56       | 98 (4) 13.0 3.63 | 111 (5) 10.1 10.4 | 105 (5) 5.82 5.68 | 102 (2) 3.37 3.39 |
| Analyte                      | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                             | $R_E$ (%)       | RSDr [%]        | RSD [%]         | $R_E$ (%)       | RSDr [%]        | RSD [%]         | $R_E$ (%)       | RSDr [%]        | RSD [%]         | $R_E$ (%)       | RSDr [%]        | RSD [%] |
| fenpyroximate               | 102 (2)         | 10.3            | 5.31            | 100 (2)         | 9.80            | 5.59            | 118 (3)         | 16.1            | 8.82            | 98 (3)          | 7.04            | 3.12 |
| fensulfothion               | 109 (8)         | 7.07            | 8.85            | 106 (7)         | 5.70            | 7.54            | 98 (3)          | 4.83            | 5.46            | 96 (2)          | 5.33            | 4.31 |
| fensulfothion-PO-sulfone    | 99 (5)          | 6.35            | 7.75            | 103 (4)         | 5.24            | 4.45            | 100 (4)         | 4.17            | 5.86            | 94 (3)          | 5.92            | 3.17 |
| fensulfothion-PO-sulfoxide  | 96 (7)          | 10.6            | 14.8            | 95 (4)          | 8.75            | 7.11            | 101 (7)         | 6.46            | 8.55            | 95 (6)          | 6.40            | 4.96 |
| fensulfothion-PS-sulfone    | 103 (4)         | 4.39            | 8.10            | 91 (5)          | 5.27            | 6.16            | 115 (4)         | 3.80            | 14.6           | 101 (3)         | 6.08            | 4.71 |
| fenthion                    | -               | -               | -               | -               | -               | -               | 106 (7)         | 10.4            | 6.30            | 97 (4)          | 7.89            | 6.96 |
| fenthion-oxon               | 99 (6)          | 7.61            | 7.27            | 93 (4)          | 5.78            | 8.64            | 103 (4)         | 5.65            | 6.96            | 97 (5)          | 5.10            | 4.17 |
| fenthion-PO-sulfone         | 90 (8)          | 9.15            | 8.23            | 99 (8)          | 10.3            | 15.4            | 101 (8)         | 7.22            | 7.64            | 94 (5)          | 7.91            | 4.93 |
| fenthion-PO-sulfoxide       | 99 (10)         | 9.85            | 9.08            | 99 (6)          | 7.35            | 8.22            | 103 (5)         | 6.77            | 8.03            | 100 (6)         | 7.92            | 5.50 |
| fenthion-PS-sulfone         | -               | -               | -               | -               | -               | -               | 95 (12)         | 11.0            | 11.9           | 93 (5)          | 7.69            | 6.67 |
| fenthion-PS-sulfoxide       | 106 (5)         | 7.42            | 9.43            | 113 (4)         | 4.85            | 8.49            | 112 (4)         | 4.22            | 8.23            | 92 (4)          | 4.35            | 5.41 |
| fenuron                     | -               | -               | -               | -               | -               | -               | -               | 100 (4)         | 4.56            | 4.81            | 101 (1)         | 2.16            | 2.58 |
| flazasulfuron               | 92 (8)          | 6.82            | 8.17            | 100 (8)         | 6.53            | 7.25            | 97 (4)          | 6.77            | 6.44            | 89 (5)          | 4.85            | 7.25 |
| flonicamid                  | 113 (15)        | 12.2            | 14.4            | 93 (6)          | 9.51            | 6.15            | 110 (2)         | 10.6            | 9.32            | 91 (4)          | 5.34            | 7.34 |
| florasulam                  | 92 (10)         | 7.25            | 9.83            | 116 (6)         | 6.13            | 11.3            | 107 (8)         | 7.32            | 11.8           | 106 (13)        | 8.25            | 9.96 |
| fluazifop-P-butyl           | 104 (5)         | 8.26            | 13.4            | 103 (6)         | 8.85            | 6.02            | 109 (8)         | 7.00            | 9.20            | 96 (6)          | 6.61            | 6.66 |
| fluazuron                   | 116 (13)        | 15.1            | 14.6            | 101 (5)         | 17.3            | 13.8            | 103 (11)        | 20.5            | 8.96            | 94 (9)          | 15.1            | 12.3 |
| flucyclonuron               | 102 (3)         | 7.71            | 4.48            | 110 (5)         | 7.78            | 5.00            | 113 (4)         | 7.79            | 7.85            | 98 (7)          | 7.35            | 5.85 |
| fludioxonil                 | -               | -               | -               | -               | -               | -               | 110 (4)         | 9.12            | 9.05            | 95 (5)          | 6.11            | 5.76 |
| flufenacet                  | 102 (6)         | 7.13            | 10.1            | 100 (4)         | 6.71            | 5.36            | 103 (6)         | 6.34            | 6.83            | 104 (7)         | 6.91            | 6.02 |
| flufenoxuron                | 103 (13)        | 11.9            | 11.4            | 119 (6)         | 16.4            | 12.8            | 109 (15)        | 13.3            | 13.7           | 88 (8)          | 12.5            | 8.66 |
| fluometuron                 | -               | -               | -               | -               | -               | -               | 109 (3)         | 7.88            | 7.23            | 101 (9)         | 6.75            | 6.88 |
| fluopicolide                | 102 (8)         | 8.35            | 9.15            | 105 (6)         | 7.02            | 6.87            | 114 (6)         | 7.30            | 11.2           | 96 (5)          | 5.12            | 4.69 |
| flurochloridone             | 99 (5)          | 7.75            | 5.58            | 115 (4)         | 6.58            | 10.3           | 102 (4)         | 4.52            | 9.85            | 90 (3)          | 5.56            | 6.82 |

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| Analyte                        | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                               | $R_E$ (RSD [%])  | $RSD_r$ [%] R [%] | $RSD_r$ (RSD [%]) R [%] | $R_E$ (RSD [%]) $RSD_r$ R [%] | $R_E$ (RSD [%]) $RSD_r$ R [%] |
| flurprimidol                  | 84 (10)         | 8.27 13.0         | 110 (11) 8.31 11.5 | 102 (7) 6.62 7.60 | 92 (7) 6.71 6.10 |
| flusilazole                   | 96 (4)          | 5.57 6.40         | 105 (4) 6.99 10.5 | 104 (4) 7.08 7.38 | 96 (5) 5.40 5.21 |
| flutriafol                    | - -             | - -              | - -             | - -             | 96 (5) 5.76 3.91 |
| formetanate                   | 105 (8)         | 9.93 27.1         | 108 (7) 8.20 26.6 | 91 (11) 11.1 18.9 | 170 (11) 9.92 11.7 |
| fosthiazate                   | 100 (6)         | 5.62 6.31         | 101 (3) 6.36 6.32 | 100 (2) 4.45 5.75 | 99 (4) 5.02 4.04 |
| fuberidazole                  | 103 (7)         | 6.02 7.02         | 99 (5) 4.44 4.76 | 107 (3) 4.67 8.95 | 101 (7) 5.70 6.63 |
| furathiocarb                  | 215 (6)         | 9.50 25.3         | 214 (7) 9.43 22.3 | 205 (5) 11.0 20.4 | 173 (10) 7.54 9.27 |
| halofenozide                  | 96 (4)          | 5.42 7.72         | 112 (8) 6.90 12.3 | 104 (6) 5.58 6.81 | 94 (7) 6.20 8.97 |
| haloxyfop                     | 89 (18)         | 19.9 13.2         | 113 (11) 21.7 13.2 | 106 (9) 23.2 10.3 | 93 (4) 5.51 9.33 |
| haloxyfop-2-ethoxyethyl       | 99 (7)          | 9.81 11.2         | 107 (5) 11.7 7.07 | 109 (6) 8.45 7.68 | 105 (5) 7.60 5.97 |
| haloxyfop-methyl              | 94 (5)          | 5.95 3.69         | 104 (4) 5.93 5.53 | 117 (2) 13.3 10.6 | 97 (3) 3.61 3.13 |
| hexaconazole                  | 99 (8)          | 7.94 7.98         | 99 (6) 6.80 8.41 | 95 (6) 7.95 5.83 | 99 (4) 5.71 4.81 |
| hexafluoruron                 | - -             | - -              | - -             | - -             | 95 (3) 8.86 6.09 |
| hexazinone                    | 103 (6)         | 8.88 7.30         | 103 (4) 9.71 5.33 | 102 (4) 6.95 5.60 | 102 (3) 4.18 4.65 |
| hexythiazox                   | 98 (6)          | 8.28 7.52         | 109 (4) 8.78 8.16 | 112 (4) 9.03 10.7 | 97 (6) 7.14 4.59 |
| imazalil                      | 109 (9)         | 9.08 12.1         | 113 (6) 7.91 11.5 | 118 (5) 5.88 9.13 | 97 (6) 6.91 6.08 |
| imibenconazole                | 94 (10)         | 9.03 8.24         | 110 (2) 12.7 8.99 | 109 (8) 8.36 8.53 | 90 (6) 7.60 7.54 |
| imidacloprid                  | 108 (14)        | 11.4 14.2         | 119 (12) 7.95 15.9 | 105 (4) 7.43 13.3 | 93 (6) 9.75 6.39 |
| indoxacarb                    | 84 (5)          | 8.99 11.2         | 114 (8) 8.97 10.7 | 113 (8) 9.98 11.2 | 92 (1) 7.76 3.98 |
| iodosulfuron-methyl           | - -             | - -              | - -             | - -             | 97 (7) 6.55 8.14 |
| iprovalicarb                  | 100 (8)         | 10.8 6.92         | 98 (7) 11.0 6.23 | 103 (4) 10.6 10.7 | 107 (7) 8.08 7.11 |
| isopropcarb                   | - -             | - -              | - -             | - -             | 120 (7) 7.77 15.5 |
| isoprothiolane                | 110 (4)         | 5.07 12.2         | 101 (7) 7.78 4.78 | 91 (3) 3.26 2.89 | 100 (5) 5.01 4.58 |
| isoproturon                   | - -             | - -              | - -             | - -             | 115 (7) 8.23 9.87 |
| isoxaben                      | 86 (5)          | 9.51 8.71         | 104 (2) 8.38 8.48 | 98 (3) 8.70 5.96 | 96 (5) 5.81 5.21 |
| isoxaflutole                  | n.a.            | n.a.             | n.a.            | n.a.            | n.a.            |
| isoxathion                    | 95 (3)          | 10.6 4.44         | 106 (5) 7.62 7.48 | 98 (4) 6.45 5.24 | 95 (3) 5.61 4.72 |
| Analyte                  | Spiking level 1 |           |            |            |            |           |            |            |            |            |            |
|-------------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                         | $R_E$ (RSD) [%] | $RSD_r$ [%] | $R$ [%]   | $R_E$ (RSD) [%] | $RSD_r$ [%] | $R$ [%]   | $R_E$ (RSD) [%] | $RSD_r$ [%] | $R$ [%]   | $R_E$ (RSD) [%] | $RSD_r$ [%] | $R$ [%]   |
| lenacil                 | 109 (4)         | 9.65      | 8.67      | 111 (2)   | 11.1      | 10.0      | 100 (6)   | 11.2      | 7.74      | 99 (3)    | 5.29      | 5.60      |
| linuron                 | 100 (4)         | 12.5      | 7.60      | 103 (10)  | 9.81      | 8.42      | 92 (9)    | 7.43      | 7.85      | 93 (6)    | 5.77      | 5.09      |
| lufenuron               | 108 (13)        | 11.3      | 17.4      | 110 (14)  | 19.9      | 15.6      | 111 (12)  | 17.6      | 11.4      | 88 (12)   | 13.8      | 12.1      |
| malaoxoxen              | 100 (4)         | 6.13      | 10.7      | 115 (9)   | 8.07      | 8.57      | 107 (1)   | 4.99      | 10.4      | 104 (6)   | 4.86      | 6.19      |
| malathion               | 109 (6)         | 7.09      | 10.3      | 107 (11)  | 8.30      | 8.46      | 102 (3)   | 7.62      | 5.01      | 99 (4)    | 5.87      | 5.74      |
| mandipropamid           | 103 (5)         | 7.24      | 11.3      | 99 (6)    | 6.37      | 7.55      | 102 (4)   | 9.67      | 9.41      | 100 (7)   | 7.40      | 6.63      |
| mepanipyrim             |                | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| metalaxyl               | 102 (3)         | 6.45      | 7.09      | 112 (6)   | 7.92      | 9.43      | 99 (7)    | 7.88      | 5.79      | 94 (6)    | 5.05      | 4.11      |
| metamitron              | 104 (12)        | 12.0      | 12.3      | 113 (7)   | 6.76      | 14.9      | 105 (9)   | 8.07      | 16.9      | 105 (5)   | 6.17      | 7.17      |
| metazachlor             | 106 (4)         | 4.80      | 8.98      | 113 (5)   | 4.65      | 10.8      | 104 (5)   | 4.65      | 10.8      | 98 (5)    | 6.50      | 4.81      |
| metconazole             | 84 (9)          | 17.5      | 13.2      | 90 (13)   | 13.0      | 15.1      | 112 (8)   | 12.7      | 17.4      | 103 (6)   | 5.09      | 5.77      |
| methabenzthiazuron      | 87 (6)          | 9.13      | 8.94      | 104 (3)   | 7.77      | 5.78      | 103 (7)   | 7.94      | 8.75      | 98 (4)    | 6.09      | 4.50      |
| methacrifos             | -               | -         | -         | -         | -         | -         | -         | -         | -         | 107 (6)   | 8.04      | 8.43      |
| methamidophos           | -               | -         | -         | -         | -         | -         | 94 (1)    | 5.67      | 5.14      | 90 (2)    | 8.07      | 3.34      |
| methidathion            | 97 (10)         | 9.64      | 10.3      | 118 (5)   | 5.69      | 13.1      | 103 (6)   | 6.79      | 8.98      | 92 (6)    | 8.38      | 5.53      |
| methiocarb              | -               | -         | -         | -         | -         | -         | 53 (3)    | 8.78      | 81.0      | 127 (9)   | 7.32      | 13.9      |
| methiocarb-sulfone      | -               | -         | -         | -         | -         | -         | 332 (5)   | 5.88      | 78.4      | 348 (3)   | 4.98      | 80.6      |
| methiocarb-sulfoxide    | -               | -         | -         | -         | -         | -         | 923 (7)   | 10.5      | 86.8      | 785 (6)   | 9.28      | 74.0      |
| metholchlor             | 112 (5)         | 9.54      | 12.3      | 111 (7)   | 7.06      | 6.03      | 108 (5)   | 7.15      | 9.80      | 94 (6)    | 5.84      | 4.19      |
| methomyl                | 91 (10)         | 22.8      | 11.3      | 83 (8)    | 17.9      | 10.7      | 92 (6)    | 15.4      | 9.98      | 81 (11)   | 10.8      | 9.97      |
| methoprotroyn           | 102 (5)         | 7.55      | 7.87      | 104 (4)   | 7.35      | 7.41      | 99 (7)    | 6.75      | 6.80      | 97 (4)    | 5.47      | 3.38      |
| methoxyfenozide         | 100 (6)         | 14.4      | 9.69      | 108 (7)   | 11.8      | 9.64      | 105 (4)   | 8.39      | 11.6      | 110 (6)   | 7.51      | 10.2      |
| metobromuron            | 88 (11)         | 9.48      | 7.82      | 102 (8)   | 9.82      | 7.41      | 102 (8)   | 6.69      | 7.34      | 89 (8)    | 6.78      | 7.02      |
| metolcarb               | -               | -         | -         | -         | -         | -         | -         | -         | -         | 221 (6)   | 7.70      | 14.2      |
| metoxuron               | 95 (5)          | 11.8      | 9.04      | 114 (10)  | 11.2      | 13.3      | 98 (9)    | 12.3      | 9.26      | 102 (7)   | 5.34      | 5.80      |
| metrafenone             | 105 (4)         | 7.24      | 10.6      | 107 (3)   | 7.41      | 6.64      | 113 (5)   | 5.67      | 12.0      | 102 (5)   | 6.47      | 5.55      |
| Analyte              | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                      | $R_E$ (RSD) [%] | RSD [%] | $R$ [%] | RSDr [%] | RSD [%] | $R_E$ (RSD) [%] | RSDr [%] | RSD [%] | $R_E$ (RSD) [%] | RSDr [%] | RSD [%] |
| Metribuzin           | 101 (5)         | 7.38 | 7.64 | 97 (12) | 10.1 | 10.3 | 107 (8) | 9.69 | 13.4 | 87 (4) | 5.04 | 6.42 | 101 (3) | 2.93 | 4.73 |
| Methylmethionine     | 100 (19)        | 13.5 | 17.6 | 112 (9) | 9.47 | 10.9 | 113 (12) | 13.0 | 11.5 | 103 (5) | 5.90 | 9.55 | 91 (6) | 6.47 | 8.22 |
| Molinate             | -               | -    | -    | 104 (5) | 10.4 | 16.5 | 110 (7) | 18.7 | 9.48 | 95 (5) | 11.0 | 8.89 | 113 (4) | 9.94 | 8.17 |
| Naurimol             | -               | -    | -    | 102 (6) | 7.98 | 10.9 | 102 (6) | 6.01 | 7.13 | 105 (4) | 5.51 | 4.49 |
| Ofurac               | 94 (6)          | 6.97 | 6.83 | 105 (10) | 9.12 | 9.03 | 99 (5) | 4.08 | 9.28 | 106 (5) | 7.13 | 5.41 | 106 (2) | 5.71 | 5.90 |
| Oxydimetron-methyl   | 108 (5)         | 18.0 | 9.23 | 100 (4) | 17.0 | 4.41 | 98 (3) | 14.3 | 3.99 | 102 (8) | 7.64 | 7.25 | 102 (2) | 2.82 | 3.94 |
| Oxamyl               | 107 (3)         | 6.64 | 5.45 | 113 (3) | 6.59 | 9.89 | 102 (2) | 9.36 | 8.13 | 93 (3) | 5.73 | 9.34 | 92 (3) | 5.71 | 8.27 |
| Oxydimetron-methyl   | 108 (5)         | 18.0 | 9.23 | 100 (4) | 17.0 | 4.41 | 98 (3) | 14.3 | 3.99 | 102 (8) | 7.64 | 7.25 | 102 (2) | 2.82 | 3.94 |
| Parathion            | 88 (5)          | 6.98 | 9.98 | 111 (4) | 5.61 | 9.12 | 109 (8) | 5.89 | 9.04 | 98 (4) | 6.06 | 6.19 | 106 (3) | 3.97 | 3.72 |
| Paraadoxon-methyl    | -               | -    | -    | -      | -    | -    | 103 (4) | 6.40 | 12.1 | 97 (3) | 7.38 | 4.92 | 94 (1) | 7.63 | 6.51 |
| Penconazole          | 95 (11)         | 7.91 | 7.97 | 100 (3) | 5.79 | 10.8 | 100 (2) | 5.93 | 8.47 | 93 (6) | 6.03 | 4.03 | 100 (3) | 3.63 | 4.99 |
| Penicyclon           | 99 (8)          | 8.92 | 8.60 | 102 (5) | 7.22 | 5.91 | 120 (6) | 7.89 | 13.9 | 97 (4) | 4.77 | 4.34 | 100 (3) | 4.44 | 3.69 |
| Pendothion           | -               | -    | -    | -      | -    | -    | 93 (6) | 7.59 | 6.50 | 94 (2) | 3.27 | 4.50 |
| Pentafluoroethyl     | -               | -    | -    | -      | -    | -    | 103 (4) | 7.47 | 6.89 | 100 (5) | 5.66 | 5.47 | 95 (3) | 2.82 | 4.44 |
| Phenemediphim        | n.a.            | n.a. | n.a. | n.a.   | n.a. | n.a. | n.a.   | n.a. | n.a. | n.a.   | n.a. | n.a. | n.a. | n.a. | n.a. |
| Phorate              | -               | -    | -    | -      | -    | -    | 96 (7) | 9.31 | 6.46 | 105 (6) | 7.73 | 5.68 |
| Analyte                        | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                               | $R_E$ (RSD) [%] | RSDr [%] R [%]  | $R_E$ (RSD) [%] | RSDr [%] R [%]  | $R_E$ (RSD) [%] | RSDr [%] R [%]  |
| phorate-sulfone                | 88 (6)          | 7.09 12.1       | 102 (6)         | 8.37 9.19       | 100 (8)         | 6.76 7.81       | 95 (6)          | 7.09 5.83       | 104 (4)         | 6.76 5.02       |
| phorate-sulfoxide              | 106 (7)         | 8.00 11.0       | 104 (5)         | 6.02 8.46       | 98 (6)          | 6.00 8.04       | 96 (4)          | 6.70 5.00       | 97 (3)          | 5.25 7.59       |
| phosphamidon                  | 98 (3)          | 7.49 12.2       | 114 (5)         | 6.14 13.6       | 95 (6)          | 7.15 6.65       | 94 (5)          | 5.89 4.75       | 104 (5)         | 6.06 6.66       |
| phoxim                        | 103 (7)         | 10.4 10.7       | 119 (5)         | 7.85 13.0       | 108 (6)         | 7.80 10.8       | 102 (5)         | 5.83 7.77       | 106 (3)         | 4.36 5.41       |
| picoxystrobin                 | 98 (5)          | 8.05 6.80       | 112 (3)         | 8.60 3.98       | 114 (5)         | 8.05 13.6       | 92 (4)          | 5.34 4.81       | 101 (4)         | 3.59 4.25       |
| piperonyl butoxide            | 103 (9)         | 15.8 13.2       | 97 (6)          | 14.6 7.52       | 106 (6)         | 11.6 7.83       | 105 (6)         | 6.71 5.36       | 102 (3)         | 4.00 3.26       |
| pirimicarb                    | 93 (5)          | 5.81 4.86       | 106 (4)         | 10.0 5.08       | 102 (3)         | 7.51 6.93       | 104 (6)         | 4.31 5.32       | 103 (2)         | 2.99 3.72       |
| pirimicarb-desmethyl          | 105 (7)         | 8.55 7.90       | 100 (3)         | 9.61 5.71       | 105 (3)         | 6.12 7.09       | 98 (4)          | 4.36 3.23       | 96 (1)          | 2.92 4.21       |
| primisulfuron-methyl          | 91 (14)         | 11.9 12.8       | 108 (2)         | 12.4 13.8       | 87 (10)         | 11.3 11.1       | 101 (7)         | 5.99 6.67       | 93 (8)          | 5.50 8.12       |
| prochloraz                    | 107 (2)         | 6.41 8.31       | 104 (4)         | 6.41 5.67       | 116 (5)         | 6.46 13.3       | 97 (4)          | 6.12 3.82       | 101 (3)         | 3.26 3.61       |
| promecarb                     | 97 (4)          | 10.5 13.1       | 110 (6)         | 14.2 9.76       | 98 (6)          | 9.39 14.4       | 147 (9)         | 6.58 7.96       | 159 (3)         | 5.07 4.11       |
| prometon                      | 113 (10)        | 8.10 9.74       | 97 (9)          | 12.5 9.30       | 103 (7)         | 10.4 9.35       | 98 (4)          | 4.98 3.92       | 95 (4)          | 4.47 7.29       |
| prometryn                     | 102 (5)         | 7.86 7.19       | 104 (5)         | 10.5 7.29       | 103 (7)         | 7.14 7.96       | 104 (4)         | 4.53 5.99       | 99 (2)          | 4.05 2.01       |
| propamocarb                   | 105 (14)        | 12.6 12.2       | 101 (11)        | 9.79 9.88       | 101 (17)        | 12.2 15.3       | 88 (10)         | 7.87 7.17       | 101 (2)         | 6.05 3.59       |
| propargite                    | 98 (3)          | 10.7 2.66       | 101 (4)         | 10.8 4.79       | 98 (7)          | 10.5 6.03       | 100 (3)         | 6.85 4.64       | 98 (3)          | 3.76 4.21       |
| propazine                     | 92 (6)          | 7.89 9.62       | 98 (6)          | 8.18 4.35       | 101 (8)         | 6.80 9.68       | 90 (2)          | 4.76 5.93       | 100 (2)         | 3.42 7.03       |
| propham                       | -               | -               | -               | -               | -               | -               | -               | 97 (5)          | 6.29 6.45       | 101 (5)         | 8.26 8.83       |
| propiconazole                 | 107 (6)         | 6.88 9.84       | 110 (5)         | 6.20 7.90       | 98 (7)          | 6.44 6.50       | 95 (3)          | 4.75 4.09       | 99 (3)          | 3.60 3.39       |
| propoxur                      | 107 (3)         | 9.05 27.4       | 104 (2)         | 9.73 16.8       | 108 (4)         | 9.13 20.1       | 188 (6)         | 6.93 8.90       | 178 (1)         | 1.98 8.64       |
| propoxy carbazone             | -               | -               | -               | -               | 107 (17)        | 14.7 16.6       | 90 (4)          | 9.05 8.34       | 116 (8)         | 7.35 12.4       |
| proquinazid                   | 98 (4)          | 7.70 5.65       | 113 (2)         | 6.35 9.20       | 108 (4)         | 6.83 7.62       | 98 (5)          | 6.55 3.87       | 98 (2)          | 2.45 2.90       |
| prosulfocarb                  | 97 (10)         | 8.07 7.07       | 90 (4)          | 8.18 7.28       | 105 (3)         | 6.54 6.81       | 103 (5)         | 6.44 5.89       | 99 (3)          | 3.31 4.11       |
| prosulfuron                   | 92 (2)          | 5.98 7.69       | 101 (6)         | 5.71 6.80       | 103 (7)         | 7.94 8.87       | 99 (4)          | 5.18 6.13       | 98 (5)          | 5.35 4.42       |
| Analyte                                      | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|---------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                             | $R_E$ (RSD) [%] | $RSD_\text{Dr}$ [%] | $RSD_\text{R}$ [%] | $R_E$ (RSD) [%] | $RSD_\text{Dr}$ [%] | $RSD_\text{R}$ [%] | $R_E$ (RSD) [%] | $RSD_\text{Dr}$ [%] | $RSD_\text{R}$ [%] | $R_E$ (RSD) [%] | $RSD_\text{Dr}$ [%] | $RSD_\text{R}$ [%] |
| pymetrozine                                 | -               | -               | -               | -               | -               | -               | 106 (23) | 18.2 | 26.5 | 78 (15) | 11.6 | 36.8 |
| pyraclostrobin                              | 94 (3)          | 6.46            | 4.52            | 102 (6)         | 8.11            | 6.91            | 108 (4) | 7.20 | 8.70 | 93 (7) | 5.64 | 5.60 |
| pyraflufenibin                              | 105 (7)         | 7.65            | 10.3            | 102 (9)         | 8.64            | 8.70            | 115 (4) | 5.22 | 9.40 | 95 (7) | 6.75 | 5.51 |
| pyrethrin-ethyl                             | -               | -               | -               | -               | -               | -               | 105 (3) | 9.87 | 6.40 | 107 (5) | 5.72 | 6.38 |
| pyrethrin II                                | -               | -               | -               | -               | -               | -               | 122 (11) | 28.2 | 17.0 | 102 (9) | 11.0 | 9.77 |
| pyridate                                    | n.a.            | n.a.            | n.a.            | n.a.            | n.a.            | n.a.            | n.a.     | n.a. | n.a. | n.a. | n.a. | n.a. |
| pyridate-metabol (6-chloro-3-phenylpyridazine-4-ol) | 101 (7) | 9.85            | 9.65            | 99 (7)          | 7.58            | 4.56            | 95 (1)   | 4.46 | 5.61 | 92 (5) | 6.86 | 5.28 |
| pyrimethanol                                | 105 (10)        | 9.98            | 9.90            | 102 (6)         | 7.99            | 8.84            | 104 (4)  | 5.31 | 6.10 | 97 (4) | 5.80 | 5.25 |
| pyrimidifen                                 | 93 (13)         | 12.6            | 8.89            | 104 (6)         | 12.2            | 5.28            | 104 (7)  | 10.1 | 8.10 | 107 (3) | 5.76 | 9.54 |
| pyriproxyfen                                | 106 (1)         | 7.14            | 6.78            | 100 (3)         | 6.24            | 6.67            | 103 (4)  | 7.39 | 6.77 | 97 (5) | 3.65 | 3.32 |
| quzalofop-ethyl                             | 98 (3)          | 7.44            | 5.45            | 103 (4)         | 9.07            | 4.65            | 97 (6)   | 8.32 | 6.55 | 95 (4) | 8.10 | 4.93 |
| rablenzazole                                | 102 (8)         | 8.39            | 11.9            | 99 (13)         | 11.3            | 13.3            | 101 (7)  | 8.96 | 9.17 | 92 (6) | 6.69 | 5.90 |
| rimsulfuron                                 | 101 (4)         | 5.06            | 12.3            | 95 (5)          | 6.70            | 14.0            | 98 (8)   | 6.56 | 14.0 | 88 (8) | 6.93 | 5.80 |
| rotenone                                    | 94 (4)          | 9.26            | 5.70            | 114 (7)         | 9.15            | 7.48            | 109 (3)  | 9.54 | 7.14 | 96 (6) | 7.20 | 5.02 |
| sebutylazine                                | 103 (5)         | 5.05            | 10.1            | 108 (7)         | 5.71            | 7.29            | 108 (5)  | 5.38 | 9.37 | 103 (3) | 6.46 | 4.57 |
| sethoxydim                                  | 118 (4)         | 8.10            | 14.9            | 108 (6)         | 11.9            | 7.41            | 118 (3)  | 11.9 | 8.25 | 106 (4) | 5.04 | 7.17 |
| silafluofen                                 | 100 (3)         | 8.48            | 4.37            | 101 (2)         | 7.94            | 3.04            | 107 (4)  | 5.90 | 8.29 | 98 (3) | 4.24 | 3.74 |
| simazine                                    | 102 (8)         | 5.98            | 13.8            | 92 (7)          | 8.90            | 6.61            | 115 (2)  | 9.18 | 12.7 | 97 (5) | 6.07 | 4.21 |
| simazine-desethyl                           | -               | -               | -               | -               | -               | -               | 85 (3)   | 5.20 | 5.46 | 94 (3) | 2.61 | 3.10 |
| simeconazol                                 | -               | -               | -               | -               | -               | -               | 102 (7)  | 6.75 | 5.79 | 97 (4) | 3.34 | 5.02 |
| spinosyn A                                  | -               | -               | -               | -               | -               | -               | 100 (5)  | 9.15 | 3.83 | 100 (4) | 18.3 | 6.96 |
| spinosyn D                                  | -               | -               | -               | -               | -               | -               | 99 (4)   | 10.9 | 3.77 | 98 (3) | 20.0 | 6.36 |
| spirodiclofen                               | 221 (6)         | 12.8            | 36.3            | 240 (4)         | 11.6            | 31.6            | 208 (5)  | 13.5 | 34.2 | 131 (7) | 10.6 | 16.1 |
| spiromesifen                                | -               | -               | -               | -               | -               | -               | 107 (5)  | 20.4 | 9.52 | 103 (4) | 11.4 | 7.64 |
| spirotetramat                              | 105 (4)         | 15.1            | 8.31            | 114 (9)         | 10.4            | 10.3            | 115 (7)  | 10.5 | 13.2 | 99 (6) | 6.82 | 5.51 |

RSD: relative standard deviation; RSDr: relative standard deviation of relative standard deviation.
| Analyte               | Spiking level 1 |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                      | $R_E$ (RSD) [%] | RSD  | $R$ [%]| RSD  | $R$ [%]| RSD  | $R$ [%]| RSD  | $R$ [%]| RSD  | $R$ [%]| RSD  | $R$ [%]|       |
| spiroxamine          | 108 (4)         | 5.95  | 9.77  | 106 (7) | 5.35 | 7.34  | 108 (5) | 6.56 | 10.7  | 105 (4) | 4.85 | 5.69  | 105 (4) | 8.50 | 9.34 |
| tebuconazole         | -               | -     | -     | -     | -     | -     | 105 (3) | 5.71 | 8.01  | 100 (6) | 6.79 | 4.71  | 100 (3) | 2.99 | 2.94 |
| tebufenozide         | 103 (10)        | 11.2  | 9.24  | 107 (5) | 10.6 | 6.49  | 100 (4) | 10.4 | 6.98  | 97 (4)  | 7.00 | 4.53  | 106 (5) | 5.08 | 5.29 |
| tebufenpyrad         | 104 (6)         | 10.2  | 13.1  | 109 (8) | 10.9 | 9.32  | 97 (8)  | 12.0 | 7.13  | 103 (7) | 9.47 | 9.20  | 100 (5) | 5.56 | 4.31 |
| teflubenzuron        | -               | -     | -     | -     | -     | -     | 104 (4) | 15.8 | 10.9  | 101 (4) | 13.7 | 14.1  | 99 (8)  | 11.5 | 9.41 |
| tetraethyl diphosphate | 96 (6)         | 6.21  | 8.20  | 116 (5) | 7.03 | 12.5  | 115 (5) | 4.67 | 10.1  | 102 (3) | 4.90 | 5.99  | 110 (2) | 3.53 | 4.64 |
| terbacil             | -               | -     | -     | -     | -     | -     | 121 (8) | 15.7 | 12.2  | 97 (5)  | 6.73 | 5.37  | 97 (3)  | 2.73 | 5.04 |
| terbufos             | -               | -     | -     | -     | -     | -     | 105 (5) | 6.85 | 9.19  | 98 (3)  | 5.68 | 4.05  | 99 (3)  | 3.43 | 3.13 |
| terbufos-sulfone     | 110 (10)        | 7.05  | 13.0  | 107 (3) | 7.15 | 6.92  | 99 (5)  | 4.78 | 5.13  | 98 (3)  | 6.53 | 5.86  | 103 (2) | 6.93 | 5.38 |
| terbufos-sulfoxide   | 103 (3)         | 6.50  | 7.31  | 106 (6) | 6.49 | 5.58  | 110 (5) | 6.51 | 8.72  | 103 (5) | 5.63 | 5.39  | 101 (4) | 3.88 | 4.51 |
| terbuthylazine       | 98 (9)          | 8.84  | 9.95  | 102 (4) | 6.21 | 7.86  | 95 (4)  | 6.56 | 5.87  | 103 (3) | 5.51 | 3.94  | 104 (4) | 3.95 | 6.23 |
| terbuthylazine-desethyl | 96 (6)         | 4.93  | 6.16  | 97 (2)  | 3.70 | 6.01  | 113 (4) | 4.75 | 12.7  | 98 (5)  | 5.65 | 3.57  | 99 (2)  | 3.01 | 3.52 |
| terbutryn            | 95 (6)          | 7.29  | 4.69  | 100 (3) | 8.33 | 6.29  | 102 (5) | 8.86 | 5.52  | 100 (5) | 5.99 | 4.24  | 98 (4)  | 3.24 | 3.57 |
| tetraconazole        | 105 (7)         | 8.33  | 10.6  | 101 (8) | 11.3 | 8.42  | 111 (3) | 5.62 | 13.1  | 99 (6)  | 6.02 | 5.78  | 105 (5) | 4.17 | 9.87 |
| thiabendazole        | 93 (6)          | 5.84  | 9.34  | 101 (2) | 3.60 | 3.32  | 103 (4) | 5.27 | 8.56  | 94 (2)  | 5.60 | 4.08  | 103 (6) | 5.14 | 7.17 |
| thiabendazole-5-hydroxy | 85 (7)         | 6.45  | 6.50  | 100 (5) | 3.78 | 10.2  | 95 (7)  | 5.29 | 11.9  | 106 (4) | 4.10 | 6.13  | 102 (3) | 5.53 | 3.55 |
| thiacloprid          | 98 (4)          | 5.74  | 4.76  | 102 (7) | 5.17 | 7.07  | 103 (8) | 5.93 | 7.40  | 88 (4)  | 6.52 | 5.50  | 95 (2)  | 2.62 | 3.89 |
| thiametoxam          | 90 (9)          | 13.2  | 7.22  | 97 (5)  | 13.8 | 6.70  | 91 (4)  | 13.8 | 7.73  | 106 (6) | 5.91 | 8.57  | 95 (5)  | 3.57 | 5.53 |
| thiafluron           | -               | -     | -     | -     | -     | -     | -     | -     | -     | 94 (3)  | 5.17 | 3.44  | 105 (3) | 2.41 | 4.86 |
| thifensulfuron-methyl | 96 (6)          | 9.11  | 9.35  | 96 (7)  | 5.58 | 8.50  | 105 (5) | 6.66 | 8.38  | 100 (4) | 5.74 | 7.08  | 88 (7)  | 5.91 | 8.75 |
| thiodicarb           | -               | -     | -     | -     | -     | -     | -     | -     | -     | 852 (5) | 6.11 | 10.4  | 891 (4) | 4.17 | 11.5 |
| thiofanox            | -               | -     | -     | -     | -     | -     | -     | -     | -     | 109 (9) | 23.3 | 14.7  | 92 (6)  | 29.3 | 15.5 |
| thiofanox-sulfone    | -               | -     | -     | -     | -     | 86 (9) | 10.5  | 11.6  | 104 (6) | 5.68 | 6.53  | 107 (4) | 3.86 | 4.29 |
| thiofanox-sulfoxide  | -               | -     | -     | -     | -     | -     | -     | -     | -     | 99 (5)  | 6.10 | 5.74  | 98 (3)  | 4.21 | 4.15 |
| thiometon            | -               | -     | -     | -     | -     | -     | -     | -     | -     | 94 (6)  | 9.83 | 9.92  | 94 (3)  | 5.52 | 12.1 |

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| Analyte               | $R_E$ (RSD) | RSD $\%$ | RSD $\%$ | $R_E$ (RSD) | RSD $\%$ | RSD $\%$ | $R_E$ (RSD) | RSD $\%$ | RSD $\%$ | $R_E$ (RSD) | RSD $\%$ | RSD $\%$ |
|----------------------|-------------|----------|----------|-------------|----------|----------|-------------|----------|----------|-------------|----------|----------|
| thionazin            | 93 (9)      | 8.02     | 8.58     | 91 (8)      | 8.70     | 8.58     | 94 (6)      | 8.67     | 11.0     | 94 (4)      | 7.66     | 4.46     |
| thiophanate-ethyl    | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     |
| thiophanate-methyl   | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     |
| tiocarbazil          | -           | -        | -        | -           | -        | -        | -           | -        | -        | 99 (2)      | 3.16     | 6.11     |
| triadimefon          | 98 (7)      | 7.13     | 7.36     | 103 (5)     | 9.84     | 6.84     | 113 (6)     | 7.23     | 9.67     | 97 (5)      | 5.74     | 4.65     |
| triadimenol          | 90 (3)      | 7.65     | 6.19     | 101 (7)     | 6.44     | 6.61     | 89 (5)      | 5.61     | 5.48     | 94 (7)      | 6.58     | 5.77     |
| triamiphos           | 96 (9)      | 8.55     | 11.0     | 105 (4)     | 8.88     | 8.28     | 113 (8)     | 7.81     | 15.8     | 101 (5)     | 6.63     | 6.93     |
| triasulfuron         | 90 (5)      | 7.56     | 7.57     | 98 (6)      | 4.73     | 6.64     | 106 (7)     | 8.14     | 7.90     | 97 (4)      | 4.38     | 3.92     |
| triazamate           | -           | -        | -        | -           | -        | -        | 102 (7)     | 7.27     | 11.1     | 114 (6)     | 6.32     | 7.97     |
| triazophos           | 92 (12)     | 12.0     | 11.1     | 119 (11)    | 9.00     | 11.7     | 114 (4)     | 5.71     | 13.6     | 100 (5)     | 6.61     | 5.45     |
| tribenuron-methyl    | 88 (3)      | 5.84     | 11.0     | 94 (3)      | 4.39     | 7.49     | 84 (4)      | 4.10     | 6.61     | 85 (5)      | 6.21     | 4.22     |
| trichlorfon          | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     | n.a.        | n.a.     | n.a.     |
| tricyclazole         | 88 (7)      | 8.23     | 7.22     | 98 (2)      | 6.75     | 3.93     | 99 (3)      | 4.30     | 4.77     | 96 (3)      | 5.37     | 3.34     |
| tridemorph           | -           | -        | -        | -           | -        | -        | 102 (9)     | 8.32     | 6.13     | 92 (5)      | 4.86     | 8.54     |
| trietazine           | 92 (6)      | 8.43     | 6.73     | 109 (3)     | 5.69     | 9.57     | 107 (5)     | 6.90     | 7.71     | 96 (5)      | 7.19     | 6.59     |
| trifloxysterbion     | 98 (4)      | 5.97     | 5.37     | 108 (6)     | 6.17     | 6.86     | 112 (4)     | 4.85     | 7.41     | 95 (6)      | 6.71     | 4.51     |
| trifloxysulfuron     | 87 (8)      | 15.6     | 8.02     | 103 (9)     | 10.3     | 12.4     | 89 (8)      | 10.9     | 9.61     | 100 (8)     | 10.5     | 6.95     |
| triflumizole         | 107 (5)     | 7.35     | 6.54     | 104 (2)     | 7.38     | 7.43     | 129 (4)     | 10.5     | 14.1     | 99 (2)      | 5.04     | 3.81     |
| triflumizole-metabo1 | 111 (11)    | 8.57     | 9.76     | 107 (6)     | 6.90     | 6.84     | 108 (3)     | 6.36     | 7.49     | 94 (4)      | 5.74     | 4.66     |
| triflumuron          | 89 (13)     | 13.1     | 8.84     | 116 (11)    | 9.58     | 11.0     | 117 (6)     | 10.9     | 12.9     | 96 (6)      | 8.50     | 7.01     |
| trilisulfuron-methyl | 103 (7)     | 5.83     | 9.00     | 95 (7)      | 5.59     | 6.75     | 104 (3)     | 3.18     | 7.44     | 96 (5)      | 5.54     | 4.74     |
| triforine            | 102 (8)     | 13.6     | 10.9     | 113 (9)     | 8.90     | 14.1     | 109 (5)     | 8.81     | 10.4     | 93 (6)      | 6.50     | 4.55     |
| triticonazole        | 96 (12)     | 7.83     | 14.1     | 103 (13)    | 11.9     | 11.5     | 95 (6)      | 7.86     | 7.10     | 101 (4)     | 6.01     | 5.29     |
| uniconazole          | -           | -        | -        | -           | -        | -        | -           | -        | -        | 100 (3)     | 5.75     | 6.07     |
| vamidothion          | 101 (6)     | 6.99     | 8.67     | 103 (6)     | 6.74     | 9.24     | 106 (7)     | 6.09     | 9.86     | 98 (1)      | 3.48     | 4.59     |
| vamidothion-sulfone  | 153 (5)     | 5.28     | 10.9     | 158 (5)     | 5.51     | 10.1     | 152 (5)     | 4.43     | 12.0     | 129 (3)     | 6.05     | 26.5     |
| Analyte                  | Spiking level 1 | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|-------------------------|------------------|------------------|------------------|------------------|------------------|
|                         | \( R_E \) (RSD) | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] |
| vamidothion-sulfoxide   | 91 (4)           | 6.44             | 2.99             | 4.75             | 5.29             |
| zoxamide                | 148 (5)          | 11.0             | 9.35             | 11.2             | 11.2             |

|                         | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] |
| vamidothion-sulfoxide   | 98 (5)           | 4.61             | 4.85             | 92 (4)           | 4.26             | 4.77             | 92 (3)           |
| zoxamide                | 131 (6)          | 11.2             | 11.2             | 140 (3)          | 8.16             | 4.90             | 112 (3)          |

|                         | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] |
| vamidothion-sulfoxide   | 92 (4)           | 4.26             | 4.77             | 92 (3)           | 2.76             | 7.03             | 92 (3)           |
| zoxamide                | 140 (3)          | 8.16             | 4.90             | 112 (3)          | 5.56             | 4.34             | 114 (2)          |

|                         | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] | RSD \( R \) [%] |
| vamidothion-sulfoxide   | 92 (4)           | 4.26             | 4.77             | 92 (3)           | 2.76             | 7.03             | 92 (3)           |
| zoxamide                | 114 (2)          | 4.33             | 6.83             | 92 (3)           | 2.76             | 7.03             | 92 (3)           |
Table S8 Matrix Suppression/Enhancement (MSE) Effects for Pesticides at Spiking Level no. 7 in Wheat.

| Analyte                        | MSE [%] | Analyte                        | MSE [%] |
|--------------------------------|---------|--------------------------------|---------|
| 3,4,5-trimethacarb             | 3       | imibenconazole                 | -7      |
| acephate                       | 75      | imidacloprid                   | -10     |
| acetamiprid                    | 3       | indoxacarb                     | 4       |
| acetochlor                     | -9      | iodosulfuron-methyl            | 6       |
| alachlor                       | -8      | iprovalicarb                   | 0       |
| aldicarb                       | 0       | isoprocarb                     | -2      |
| aldicarb-sulfoxide             | 25      | isoprothiolane                 | -15     |
| aldoxycarb                     | -3      | isoproturon                    | -3      |
| ametoctradin                   | -7      | isoxaben                       | -9      |
| ametryn                        | -1      | isoxaflutole                   | n.a.    |
| amidosulfuron                  | -16     | isoxathion                     | -11     |
| aminocarb                      | -15     | lenacil                         | 5       |
| aminopyralid                   | 14      | linuron                         | -5      |
| amitraz                        | -78     | lufenuron                       | -19     |
| amitraz-amide                  | 13      | malaoxox                       | 5       |
| amitraz-amidin                 | -85     | malathion                       | -8      |
| ancymidol                      | -6      | mandipropamid                   | 3       |
| atrazine                       | -6      | mepanipyrim                    | -6      |
| atrazine-desethyl-desisopropyl | -15     | metalaxyl                       | -4      |
| avermectin B1a                 | -3      | metamitron                     | -15     |
| avermectin B1b                 | n.a.    | metazachlor                     | 0       |
| azaconazole                    | -9      | metconazole                     | 0       |
| azamethiphos                   | -5      | methabenzthiazuron              | -4      |
| aziprotryne                    | -3      | methacrifos                     | -8      |
| azoxystrobin                   | -5      | methamidophos                   | 19      |
| benalaxyl                      | -3      | methidathion                    | -17     |
| bendiocarb                     | 11      | methiocarb                      | -2      |
| benfuracarb                    | -68     | methiocarb-sulfone              | 52      |
| benodanil                      | 1       | methiocarb-sulfoxide            | 24      |
| benomyl                        | n.a.    | metholachlor                    | -2      |
| bensulfuron-methyl             | 8       | methomyl                        | -5      |
| benthiavalcirb-isopropyl       | 0       | methoprotryrn                  | -1      |
| bitertanol                     | 11      | methoxyfenozide                 | 0       |
| boscalid                       | -17     | metabromuron                   | -9      |
| bromacil                       | -5      | metolcarb                       | -1      |
| bromuconazole                  | -9      | metoxuron                       | -3      |
| bupirimate                     | -3      | metrafenone                    | -26     |
| buprofezin                     | -51     | metribuzin                      | -3      |
| butachlor                      | -39     | metsulfuron-methyl              | 0       |
| butocarboxim                   | -4      | molinate                        | 1       |
| butocarboxim-sulfoxide         | 38      | monocrotophos                   | 2       |
| butoxycarboxim                 | 1       | monolinuron                     | -5      |
| buturon                        | -6      | monuron                         | 7       |
| cadusafos                      | -10     | napropamide                     | -5      |
| Analyte          | MSE [%] | Analyte          | MSE [%] |
|------------------|---------|------------------|---------|
| carbaryl         | 1       | neburon          | -12     |
| carbenzadim      | -9      | nicosulfuron     | 5       |
| carbofuran       | 16      | novaluron        | 0       |
| carbofuran-3-hydroxy | 7     | nuarimol         | -9      |
| carbosulfan      | -73     | ofurace          | -8      |
| carboxin         | -7      | omethoate        | 34      |
| chlorantraniliprole| 3    | orbencarb        | -9      |
| chlorbromuron    | -3      | oxadixyl         | -14     |
| chlorfluanuron   | 2       | oxamyl           | 0       |
| chloridazon      | -6      | oxamyl-oxime     | 2       |
| chloroxuron      | 9       | oxydemeton-methyl| 1       |
| chlorpropham     | 9       | paclobutrazol    | -4      |
| chlorsulfuron    | -7      | paraoxon-ethyl   | -2      |
| chlortoluron     | 0       | paraoxon-methyl  | -7      |
| cinidin-ethyl    | -9      | penconazole      | -19     |
| cinosulfuron     | -3      | pencycuron       | -3      |
| clethodim        | -7      | pendimethalin    | -2      |
| clodinafop-propargyl | -3   | pentanochlor     | -5      |
| clomazone        | -4      | phorate          | -4      |
| clothianidin     | 0       | phorate-sulfone  | -6      |
| cyanazine        | -5      | phorate-sulfoxide| -8      |
| cyazofamid       | -6      | phosmet          | 1       |
| cymoxanil        | 4       | phosphamidon     | 2       |
| cyproconazole    | -10     | phoxim           | -18     |
| cyprodinil       | -11     | picoxystrobin    | 0       |
| cyprofuram       | -1      | piperonyl butoxide| -6     |
| cyromazine       | -26     | pirimicarb       | -2      |
| daminozide       | -52     | pirimicarb-desmethyl| 5    |
| demeton          | -12     | pirimicarb-desmethylformamido| 3 |
| demeton-S-methyl | 0       | primisulfuron-Methyl| 6     |
| demeton-S-methyl-sulfone | 0  | prochloraz       | -13     |
| desmedipham      | n.a.    | promecarb        | 9       |
| desmetryn        | -6      | prometon         | 2       |
| diazinon         | -11     | prometryn        | 0       |
| dichlorvos       | 3       | propameton       | -50     |
| diclobutrazol    | -37     | propargite       | -32     |
| diethofencarb    | 3       | propazine        | -1      |
| diethyltoluamide | -4      | propamet        | -1      |
| difenconazole    | -13     | propiconazole    | -9      |
| difenoxuron      | -3      | propoxur         | 8       |
| diflu benzuron   | -6      | propxycarbazone  | -13     |
| diflu fenican    | -15     | proquinazid      | -9      |
| dimefox          | -4      | prosulfocarb     | -18     |
| dimefuron        | 3       | prosulfuron      | -1      |
| dimethenamid     | -11     | pymetrozine      | 1536    |
| dimethoate       | -9      | pyraclostrobin   | -35     |
| dimethomorph     | 6       | pyraflufen-ethyl | -3      |
| Analyte               | MSE [%] | Analyte               | MSE [%] |
|-----------------------|---------|-----------------------|---------|
| dimetilan             | 0       | pyrethrin I           | -4      |
| dimoxystrobin         | -2      | pyrethrin II          | 13      |
| dinotefuran           | -5      | pyridate              | n.a.    |
| disulfoton            | -7      | pyridate-metabol (6-chloro-3-phenylpyridazin-4-ol) | -19    |
| disulfoton-sulfone    | 1       | pyrimethanil          | 0       |
| disulfoton-sulfoxide  | -9      | pyrimidifen           | 9       |
| diuron                | -4      | pyriproxyfen          | -18     |
| dodine                | n.a.    | quinalofop-ethyl      | -32     |
| emamectin B1a         | 425     | rabenzazole           | 3       |
| emamectin B1b         | 461     | rimsulfuron           | -1      |
| epoxiconazole         | -9      | rotenone              | 12      |
| ethiofencarb          | 18      | sebuthylazine         | -9      |
| ethiofencarb-sulfone  | 32      | sethoxydim            | -6      |
| ethiofencarb-sulfoxide| 18      | silafluofen           | -2      |
| ethiprole             | -4      | simazine              | 1       |
| ethofumesate          | -3      | simazine-desethyl     | -17     |
| ethofumesate-2-keto   | -1      | simeconazol           | -4      |
| ethoprophos           | 0       | spinosyn A            | 318     |
| etofenprox            | -33     | spinosyn D            | 286     |
| etoxazole             | -30     | spirodiclofen         | 82      |
| famoxadon             | -12     | spiromesifen          | -38     |
| fenamidone            | -15     | spirotetramat         | 14      |
| fenamiphos            | -7      | spiroxamine           | 412     |
| fenamiphos-sulfone    | 1       | tebuconazole          | 0       |
| fenamiphos-sulfoxide  | -3      | tebufenozide          | -6      |
| fenarimol             | -6      | tebufenpyrad          | -16     |
| fenazaquin            | -16     | teflubenzuron         | -6      |
| fenbuconazole         | -4      | tetraethyl diphosphate| -1      |
| fenhexamid            | -10     | terbacil              | 1       |
| fenobucarb            | 3       | terbufos              | -23     |
| fenoxaprop-P-ethyl    | -20     | terbufos-sulfone      | -8      |
| fenoxy carb           | 2       | terbufos-sulfoxide    | -6      |
| fenpiconil            | -3      | terbuthylazine        | -7      |
| fenpropidin           | 514     | terbuthylazine-desethyl| -10    |
| fenpropimorph         | -6      | terbutryn             | -6      |
| fenpyroximate         | -3      | tetraconazole         | -28     |
| fensulfothion         | -2      | thiabendazole         | -4      |
| fensulfothion-PO-sulfone| -1     | thiabendazole-5-hydroxy| 693   |
| fensulfothion-PO-sulfoxide| -3    | thiacloprid          | -1      |
| fensulfothion-PS-sulfone| -3    | thiametoxam          | -6      |
| fenthion              | -12     | thiazafuron           | -2      |
| fenthion-oxon         | -5      | thifensulfuron-methyl | 29      |
| fenthion-PO-sulfone   | -11     | thiodicarb            | 16      |
| fenthion-PO-sulfoxide | -2      | thiofanox             | -4      |
| fenthion-PS-sulfone   | -10     | thiofanox-sulfone     | 12      |
| fenthion-PS-sulfoxide | 5       | thiofanox-sulfoxide   | -2      |
| fenuron               | -3      | thiometon             | -20     |
| Analyte             | MSE [%] | Analyte             | MSE [%] |
|---------------------|---------|---------------------|---------|
| flazasulfuron       | -4      | thionazin           | -2      |
| flonicamid          | -12     | thiophanate-ethyl   | n.a.    |
| florasulam          | 0       | thiophanate-methyl  | n.a.    |
| fluazifop-P-butyl   | -35     | tiocarbazil         | -72     |
| fluazuron           | -23     | triadimefon         | 1       |
| flucycloxyuron      | 6       | triadimenol         | -3      |
| fludioxonil         | 2       | triamiphos          | 5       |
| flufenacet          | -10     | triasulfuron        | 0       |
| flufenoxuron        | 5       | triazamate          | -9      |
| fluometuron         | -6      | triazophos          | -5      |
| fluopicolide        | -28     | tribenuron-methyl   | -22     |
| flurochloridone     | -5      | trichlorfon         | n.a.    |
| flurprimidol        | -6      | tricyclazole        | 0       |
| flusilazole         | -6      | tridemorph          | -37     |
| flutriafol          | -10     | trietazine          | -4      |
| formetanate         | -59     | trifloxystrobin     | -53     |
| fosthiazate         | -3      | triflloxysulfuron   | -14     |
| furathiocarb        | -5      | triflumizole        | -5      |
| furathiotocarb      | -9      | triflumizole-metabo | -8     |
| halofenozone        | -6      | triflumuron         | -4      |
| haloxyfop           | 33      | triflumuron-methyl  | -7      |
| haloxyfop-2-ethoxyethyl | -24  | triforine           | 2       |
| haloxyfop-methyl    | -5      | triticonazole       | -21     |
| hexaconazole        | -6      | uniconazole         | -17     |
| hexaflumuron        | -18     | vanidothion         | -4      |
| hexazinone          | -2      | vanidothion-sulfone | 40      |
| hexythiazox         | 2       | vanidothion-sulfoxide | 187   |
| imazalil            | -11     | zoxamide            | 29      |
Table S9 Recoveries ($R_E$, n = 6), Repeatabilities (RSDr), and Within-Laboratory Reproducibilities (RSDR) for Mycotoxins, Plant Growth Regulators, and Tropane Alkaloids at 4 Spiking Levels in Wheat.

| Analyte                        | Spiking level 2 | Spiking level 3 | Spiking level 7 | Spiking level 8 |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                | $R_E$ (RSD) [%] | RSDr [%]        | $R_E$ (RSD) [%] | RSDr [%]        |
| aflatoxin B1                   | 106 (3)         | 7.10            | 115 (6)         | 5.88            |
| aflatoxin B2                   | 109 (2)         | 9.98            | 98 (3)          | 4.50            |
| aflatoxin G1                   | 113 (9)         | 10.6            | 110 (8)         | 6.10            |
| aflatoxin G2                   | 95 (10)         | 9.61            | 100 (6)         | 6.05            |
| altenuene                      | 108 (12)        | 10.6            | 96 (10)         | 10.21           |
| alternariol                    | 99 (7)          | 7.41            | 97 (9)          | 5.94            |
| alternariol monomethyl ether   | 101 (7)         | 6.07            | 105 (3)         | 4.19            |
| citrinin                       | 63 (12)         | 9.72            | 54 (6)          | 9.41            |
| deoxynivalenol                 | 102 (6)         | 12.3            | 97 (10)         | 12.6            |
| deoxynivalenol-3-glucoside     | 89 (4)          | 6.87            | 91 (2)          | 7.69            |
| 15-acetyldeoxynivalenol        | 104 (9)         | 7.96            | 93 (8)          | 7.41            |
| 3-acetyldeoxynivalenol         | 109 (8)         | 7.91            | 113 (5)         | 11.9            |
| diacetoxyscirpenol             | 94 (10)         | 7.59            | 92 (5)          | 6.77            |
| fumonisin B1                   | 82 (27)         | 17.5            | 74 (6)          | 9.72            |
| hydrolyzed fumonisin B1        | 95 (7)          | 8.95            | 92 (16)         | 13.3            |
| fumonisin B2                   | 104 (8)         | 6.11            | 120 (6)         | 7.01            |
| hydrolyzed fumonisin B2        | 97 (3)          | 8.67            | 99 (1)          | 6.78            |
| fumonisin B3                   | 108 (7)         | 7.08            | 120 (11)        | 8.74            |
| fusarenon X                    | 104 (16)        | 10.7            | 102 (9)         | 6.96            |
| HT-2 toxin                     | 96 (3)          | 5.88            | 95 (11)         | 7.93            |
| neosolanol                     | 90 (11)         | 11.6            | 112 (9)         | 9.22            |
| nivalenol                      | 93 (4)          | 6.79            | 90 (11)         | 10.1            |
| Analyte                     | Spiking level 2 |                       |                       | Spiking level 3 |                       |                       | Spiking level 7 |                       |                       | Spiking level 8 |                       |
|----------------------------|----------------|-----------------------|-----------------------|----------------|-----------------------|-----------------------|----------------|-----------------------|-----------------------|----------------|-----------------------|
|                            | $R_E$ (RSD) [%] | RSDr [%]              | RSDr [%]              | $R_E$ (RSD) [%] | RSDr [%]              | RSDr [%]              | $R_E$ (RSD) [%] | RSDr [%]              | RSDr [%]              | $R_E$ (RSD) [%] | RSDr [%]              |
| ochratoxin A               | 103 (9)        | 7.17                  | 9.98                  | 111 (4)        | 7.14                  | 5.69                  | 94 (2)         | 5.73                  | 3.97                  | 104 (2)        | 4.09                  | 4.23                  |
| sterigmatocystin           | 104 (5)        | 5.95                  | 8.83                  | 107 (3)        | 12.0                  | 7.25                  | 97 (4)         | 5.99                  | 4.84                  | 99 (4)         | 4.23                  | 4.07                  |
| T-2 toxin                  | 81 (7)         | 9.62                  | 13.9                  | 101 (9)        | 8.17                  | 8.91                  | 93 (6)         | 5.48                  | 6.77                  | 101 (1)        | 3.32                  | 5.12                  |
| tentoxin                   | 109 (3)        | 9.14                  | 7.45                  | 104 (3)        | 8.26                  | 8.65                  | 100 (4)        | 5.27                  | 5.04                  | 95 (6)         | 5.03                  | 6.48                  |
| zearalanone                | 104 (10)       | 9.71                  | 7.14                  | 106 (3)        | 2.91                  | 6.14                  | 97 (1)         | 4.48                  | 4.02                  | 103 (3)        | 5.00                  | 3.56                  |
| zearalenone-14-glicoside   | 94 (9)         | 6.66                  | 6.35                  | 89 (7)         | 8.02                  | 6.06                  | 94 (3)         | 5.90                  | 6.86                  | 93 (4)         | 3.74                  | 8.27                  |
| zearalenone-14-sulfate     | 84 (3)         | 4.88                  | 6.94                  | 96 (2)         | 3.54                  | 9.43                  | 85 (6)         | 5.30                  | 4.66                  | 85 (5)         | 6.79                  | 4.04                  |
| zearalenone-14,16-disulfate| 8 (7)          | 8.70                  | 9.56                  | 8 (11)         | 14.1                  | 14.1                  | 7 (4)          | 11.3                  | 7.60                  | 7 (1)          | 18.3                  | 9.06                  |
| α-zearalenol               | 110 (5)        | 4.14                  | 7.11                  | 108 (4)        | 4.01                  | 5.23                  | 105 (4)        | 5.42                  | 3.49                  | 108 (1)        | 3.67                  | 3.71                  |
| α-zearalenol-14-glicoside  | 105 (12)       | 7.68                  | 10.8                  | 95 (14)        | 14.7                  | 13.1                  | 92 (13)        | 13.6                  | 11.5                  | 89 (6)         | 9.42                  | 11.8                  |
| α-zearalenol-14-sulfate    | 84 (3)         | 6.61                  | 7.17                  | 87 (1)         | 2.97                  | 6.52                  | 83 (6)         | 6.22                  | 6.22                  | 90 (3)         | 6.03                  | 6.83                  |
| β-zearalenol               | 103 (4)        | 6.59                  | 6.92                  | 96 (6)         | 5.77                  | 7.55                  | 102 (5)        | 5.79                  | 4.68                  | 102 (3)        | 2.58                  | 4.40                  |
| β-zearalenol-14-glicoside  | 88 (12)        | 13.4                  | 10.6                  | 93 (17)        | 13.1                  | 14.0                  | 92 (13)        | 9.75                  | 10.8                  | 89 (6)         | 8.50                  | 11.1                  |
| β-zearalenol-14-sulfate    | 77 (4)         | 8.83                  | 8.80                  | 75 (3)         | 3.00                  | 7.21                  | 65 (11)        | 8.00                  | 9.00                  | 88 (5)         | 5.73                  | 9.03                  |
| zearalanone                | 103 (7)        | 5.00                  | 6.24                  | 94 (4)         | 7.30                  | 5.35                  | 99 (2)         | 3.89                  | 2.84                  | 102 (2)        | 2.23                  | 2.76                  |
| zearalanone-14-glicoside   | 113 (8)        | 7.03                  | 12.5                  | 93 (9)         | 9.32                  | 9.24                  | 95 (4)         | 7.43                  | 4.80                  | 92 (6)         | 4.80                  | 10.6                  |
| α-zearalanol               | 99 (2)         | 3.74                  | 3.37                  | 99 (4)         | 5.08                  | 8.40                  | 90 (5)         | 8.30                  | 9.59                  | 97 (5)         | 6.04                  | 6.80                  |
| β-zearalanol               | 100 (7)        | 9.22                  | 10.9                  | 103 (6)        | 14.6                  | 11.0                  | 100 (4)        | 11.2                  | 7.18                  | 99 (9)         | 10.7                 | 5.60                  |
| chloromequat               | 101 (4)        | 6.46                  | 5.03                  | 96 (6)         | 7.19                  | 7.04                  | 95 (5)         | 4.97                  | 4.11                  | 95 (2)         | 2.98                  | 5.71                  |
| mepiquat                   | 98 (5)         | 5.41                  | 4.29                  | 97 (3)         | 6.16                  | 2.94                  | 93 (3)         | 4.13                  | 2.55                  | 92 (2)         | 6.97                  | 3.22                  |
| atropine                   | 99 (4)         | 11.1                  | 6.50                  | 99 (5)         | 12.0                  | 4.57                  | 105 (6)        | 7.15                  | 5.86                  | 104 (4)        | 4.55                  | 4.12                  |
| scopolamine                | 101 (3)        | 7.99                  | 6.80                  | 98 (7)         | 15.2                  | 7.62                  | 96 (8)         | 7.94                  | 6.78                  | 95 (7)         | 7.73                  | 8.91                  |
Table S10 Overall Validation Results [Recoveries ($R_e$), Repeatabilities (RSDr), and Within-Laboratory Reproducibilities (RSDR) Assessed at the Respective Limits of Quantification for Mycotoxins, Plant Growth Regulators, Tropane Alkaloids, and Spiking Level no. 3 and 4 for Pesticides; Measurement Uncertainty (MU)].

| Analyte                        | Validation | Analyte                        | Validation | Analyte                        | Validation |
|--------------------------------|------------|--------------------------------|------------|--------------------------------|------------|
| aflatoxin B1                   | ok         | flucycloxuron                   | ok         | aflatoxin B2                   | ok         |
| aflatoxin B2                   | ok         | fludioxonil                     | ok         | aflatoxin G1                   | ok         |
| aflatoxin G1                   | ok         | flufenacet                      | ok         | aflatoxin G2                   | ok         |
| alternariol                    | ok         | fluopicolide                    | ok         | alternariol monomethyl ether   | ok         |
| citrin                         | $R_e$      | flurochloridone                 | ok         | deoxynivalenol                 | ok         |
| deoxynivalenol                 | ok         | flusilazole                     | ok         | deoxynivalenol-3-glucoside     | ok         |
| 15-acetyldeoxynivalenol        | ok         | formetanate                     | MU         | hydrolyzed fumonisin B1        | ok         |
| 3-acetyldeoxynivalenol         | ok         | fosthiazate                     | ok         | fumonisin B1                   | RSDR, MU   |
| diacetoxyscirpenol             | ok         | flurochloridone                 | ok         | hydrolyzed fumonisin B1        | ok         |
| fumonisin B2                   | RSDR, MU   | furathiocarb                    | $R_e$, RSDR, MU |
| fusarenon X                    | ok         | halofenozide                    | ok         | fumonisin B2                   | haloxyfop  |
| HT-2 toxin                     | ok         | haloxyfop-2-ethoxyethyl        | ok         | hydrolyzed fumonisin B2        | haloxyfop-methyl |
| neosolaniol                    | ok         | hexaconazole                    | ok         | fumonisin B3                   | haloxyfop-methyl |
| nivalenol                      | ok         | hexaflumuron                    | ok         | fusarenon X                    | hexaconazole |
| ochratoxin A                   | ok         | hexythiazox                     | ok         | HT-2 toxin                     | hexaflumuron |
| sterigmatocystin              | ok         | imibenconazole                  | ok         | neosolaniol                    | hexazinone |
| T-2 toxin                      | ok         | imidaclorpid                    | ok         | nivalenol                      | hexythiazox |
| tentoxin                       | ok         | indoxacarb                      | ok         | ochratoxin A                   | imazalil |
| zearalenone                    | ok         | iodosulfuron-methyl             | ok         | sterigmatocystin              | imibenconazole |
| zearalenone-14-glucoside       | ok         | iprovalicarb                    | ok         | T-2 toxin                      | imidaclorpid |
| zearalenone-14-sulfate         | ok         | isoprocarb                      | ok         | tentoxin                       | indoxacarb |
| zearalenone-14,16-disulfate    | $R_e$      | isoprothiolane                 | ok         | zearalenone                    | iodosulfuron-methyl |
| α-zearalenol                   | ok         | isoproturon                     | ok         | zearalenone-14-glucoside       | isoxaben |
| α-zearalenone-14-glucoside     | ok         | isoxaflutole                    | n.a.       | α-zearalenol                   | isoproturon |
| α-zearalenone-14-sulfate       | ok         | isoxaflutole                    | n.a.       | β-zearalenol                   | isoxathion |
| β-zearalenol                   | ok         | isoxathion                      | ok         | β-zearalenone-14-glucoside     | lenacil |
| β-zearalenone-14-sulfate       | ok         | linuron                         | ok         | β-zearalenol                   | lenacil |
| zearalanone                    | ok         | lufenuron                       | ok         | zearalanone-14-glucoside       | malaoxon |
| zearalanone-14-glucoside       | ok         | mandipropamid                   | ok         | zearalanone                    | malathion |
| chlormequat                    | ok         | mepanipyrim                     | ok         | chlormequat                    | mepanipyrim |

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| Analyte                        | Validation | Analyte                        | Validation |
|--------------------------------|------------|--------------------------------|------------|
| mepiquat                       | ok         | metalaxyl                      | ok         |
| atropine                       | ok         | metamitron                     | ok         |
| scopoline                       | ok         | metazachlor                    | ok         |
| 3,4,5-trimethacarb             | ok         | metconazole                    | RE, RSDR, MU |
| acephate                       | ok         | methabenzthiazuron             | ok         |
| acetamiprid                    | ok         | methacrifos                    | ok         |
| acetochlor                     | ok         | methamidophos                  | ok         |
| alachlor                       | ok         | methidathion                   | ok         |
| aldicarb                       | ok         | methiocarb                     | RE, RSDR, MU |
| aldicarb-sulfoxide             | ok         | methiocarb-sulfone             | RE, RSDR, MU |
| amitraz                        | RE, RSDr, MU | metolcarb                     | RE         |
| amitraz-amide                  | ok         | metoxuron                      | ok         |
| amitraz-amidin                 | RSDr       | metrafenone                    | ok         |
| ancymidol                      | ok         | metribuzin                     | ok         |
| atrazine                       | ok         | metsulfuron-methyl             | MU         |
| atrazine-desethyl-desisopropyl | ok         | molinate                       | ok         |
| avermectin B1ab                | RSDr       | monocrotophos                  | ok         |
| avermectin B1bb                | n.a.       | monolinuron                    | ok         |
| azaconazole                    | ok         | monuron                        | ok         |
| azamethiphos                   | ok         | napropamide                    | ok         |
| aziprotryne                    | ok         | neburon                        | ok         |
| azoxystrobin                   | ok         | nicosulfuron                   | ok         |
| benalaxyl                      | ok         | novaluron                      | ok         |
| bendiocarb                     | RE, RSDR, MU | nuarimol                      | ok         |
| benfuracarb                    | RE, RSDr, RSDR, MU | ofurace                      | ok         |
| benodanil                      | ok         | methoate                       | ok         |
| benomyld                       | n.a.       | orbencarb                      | ok         |
| bensulfuron-methyl             | ok         | oxadixyl                       | ok         |
| benthiavalcir-carb-isopropyl   | ok         | oxamyl                         | ok         |
| bitertanol                     | ok         | oxamyl-oxime                   | ok         |
| boscalid                       | ok         | oxydemeton-methyl              | ok         |
| bromacil                       | RE, RSDR   | paclitaxel                     | ok         |
| bromuconazole                  | ok         | paraoxon-ethyl                 | ok         |
| bupirimate                     | ok         | paraoxon-methyl                | ok         |
| buprofezin                     | ok         | penconazole                    | ok         |
| butachlor                      | ok         | pencycuron                     | ok         |
| butocarboxim                   | ok         | pendimethalin                  | ok         |
| butocarboxim-sulfoxide         | ok         | pentanochlor                   | ok         |
| butoxycarboxim                 | ok         | phenmedipham                   | n.a.       |
| Analyte                | Validation              | Analyte                | Validation               |
|-----------------------|-------------------------|------------------------|--------------------------|
| buturon               | ok                      | phorate                | ok                       |
| cadusafos             | ok                      | phorate-sulfone        | ok                       |
| carbaryl              | $R_e$, RSDR, MU         | phorate-sulfoxide      | ok                       |
| carbendazim           | ok                      | phosmet                | ok                       |
| carbofuran            | MU                      | phosphamidon          | ok                       |
| carbofuran-3-hydroxy  | RSDR, MU                | phoxim                 | ok                       |
| carbosulfan           | $R_e$, RSDR, MU         | picoxyystrobin         | ok                       |
| carboxin              | ok                      | piperonyl butoxide     | ok                       |
| chlorantraniloprole   | ok                      | pirimicarb            | ok                       |
| chlorbromuron         | ok                      | pirimicarb-desmethyl   | ok                       |
| chlorfluazuron        | ok                      | pirimicarb-desmethylformamido | ok |
| chloridazon           | ok                      | primisulfuron-Methyl   | ok                       |
| chloroxuron           | ok                      | prochloraz            | ok                       |
| chlorpropham          | ok                      | promecarb             | ok                       |
| clorsulfuron          | ok                      | prometon               | ok                       |
| chlortoluron          | ok                      | prometryn             | ok                       |
| cinidon-ethyl         | ok                      | propamocarb           | ok                       |
| cinosulfuron          | ok                      | propargite            | ok                       |
| clethodim             | ok                      | propazine              | ok                       |
| clodinafol-propargyl  | ok                      | propham               | ok                       |
| clofentezine          | ok                      | propiconazole         | ok                       |
| clomazone             | ok                      | propoxur               | RSDR, MU                 |
| clothianidin          | ok                      | propoxycarbazone      | ok                       |
| cyanazine             | ok                      | proquinazid           | ok                       |
| cyazofoamid          | ok                      | prosulfocarb          | ok                       |
| cymoxanil             | $R_e$, RSDR, MU         | prosulfuron           | ok                       |
| cyproconazole         | ok                      | pymetrozine           | RSDR, MU                 |
| cyprodinil            | ok                      | pyraclostrobin        | ok                       |
| cyprofuram            | ok                      | pyraflufen-ethyl      | ok                       |
| cyromazine            | ok                      | pyrethrin I           | ok                       |
| daminozide            | ok                      | pyrethrin II          | $R_e$, RSDr              |
| demeton               | ok                      | pyridate              | n.a.                     |
| demeton-S-methyl      | ok                      | pyridate-metabol (6-chloro-3-phenylpyridazin-4-ol) | ok |
| demeton-S-methyl-sulfone | ok               | pyrimethanil          | ok                       |
| desmedipham           | n.a.                    | pyrimidifen           | ok                       |
| desmetryn             | ok                      | pyriproxyfen          | ok                       |
| diazinon              | ok                      | quinalofop-ethyl      | ok                       |
| dichlorvos            | ok                      | rabenzazole           | ok                       |
| diclobutrazol         | ok                      | rimsulfuron           | ok                       |
| diethofencarb         | ok                      | rotenone              | ok                       |
| diethyltoluamide      | ok                      | sebethylazine         | ok                       |
| difenoconazole        | ok                      | sethoxydim            | ok                       |
| difenoxyuron          | ok                      | silafluofen           | ok                       |
| diflubenzuron         | ok                      | simazine              | ok                       |
| diflufenicar          | ok                      | simazine-desethyl     | ok                       |
| dimefox               | ok                      | simeconazol          | ok                       |
| diflufenican          | ok                      | simeconazol          | ok                       |
| diflufenican          | ok                      | simeconazol          | ok                       |
| Analyte                  | Validation | Analyte                  | Validation |
|-------------------------|------------|-------------------------|------------|
| dimefuron               | ok         | spinosyn Ad             | ok         |
| dimethenamid            | ok         | spinosyn Dd             | ok         |
| dimethoate              | ok         | spirodiclofen           | Re, RSDR, MU |
| dimethomorph            | ok         | spiromesifen            | RSDr       |
| dimetilan               | ok         | spirotetramat           | ok         |
| dimoxystrobin           | ok         | spiroxamine             | ok         |
| dinofuran               | ok         | tebuconazole            | ok         |
| disulfoton              | ok         | tebufenoide             | ok         |
| disulfoton-sulfone      | ok         | tebufenpyrad            | ok         |
| disulfoton-sulfoxide    | ok         | teflubenzuron           | ok         |
| diuron                  | ok         | tetraethyl diphasphate  | ok         |
| dodine                  | n.a.       | terbacil                | Re         |
| emamectin B1ac          | ok         | terbufos                | ok         |
| emamectin B1bc          | Re, RSDr, RSDR, MU | terbufos-sulfone      | ok         |
| epoxiconazole           | ok         | terbufos-sulfoxide      | ok         |
| ethiofencarb            | RSDR, MU  | terbuthylazine          | ok         |
| ethiofencarb-sulfone    | Re, RSDr, MU | terbuthylazine-desethyle | ok         |
| ethiofencarb-sulfoxide  | RSDr, MU  | terbutryn               | ok         |
| ethiprole               | ok         | tetraconazole           | ok         |
| ethofumesate            | ok         | thiacendazole           | ok         |
| ethofumesate-2-keto     | ok         | thiacendazole-5-hydroxy | ok         |
| ethopropos              | ok         | thiacloprid             | ok         |
| etofenprox              | ok         | thiametoxam             | ok         |
| etoxazole               | ok         | thiazafuron             | ok         |
| famoxadon               | ok         | thifensulfuron-methyl   | ok         |
| fenamidone              | ok         | thiodicarb              | Re         |
| fenamiphos              | ok         | thiofanox               | RSDr       |
| fenamiphos-sulfone      | ok         | thiofanox-sulfone       | ok         |
| fenamiphos-sulfoxide    | ok         | thiofanox-sulfoxide     | ok         |
| fenarimol               | ok         | thiometon               | ok         |
| fenazaquin              | ok         | thionazin               | ok         |
| fenbuconazole           | ok         | thiophonate-ethyl       | n.a.       |
| fenhexmid               | ok         | thiophonate-methyl      | n.a.       |
| fenobucarb              | ok         | tiocarbazil             | ok         |
| fenoxaprop-P-ethyl      | ok         | triadimefon             | ok         |
| fenoxycarb              | ok         | triadimeno              | ok         |
| fenpiclonil             | ok         | triamiphos              | ok         |
| fenpropidin             | ok         | triasulfuron            | ok         |
| fenpropimorph           | ok         | triazamate              | ok         |
| fenpyroximate           | ok         | triazophos              | ok         |
| fensulfothion           | ok         | tribenuron-methyl       | ok         |
| fensulfothion-PO-sulfone| ok         | trichlorfon             | n.a.       |
| fensulfothion-PO-sulfoxide| ok          | tricyclazole            | ok         |
| fensulfothion-PS-sulfone| ok         | tridemorph              | ok         |
| fenthion                | ok         | trietazine              | ok         |
| fenthion-oxon           | ok         | trifloxystrobin         | ok         |
| Analyte               | Validation | Analyte               | Validation |
|----------------------|------------|----------------------|------------|
| fenthion-PO-sulfone  | ok         | trifloxysulfuron     | ok         |
| fenthion-PO-sulfoxide| ok         | triflumizole         | RE         |
| fenthion-PS-sulfone  | ok         | triflumizole-metaboleFM-6-1 | ok         |
| fenthion-PS-sulfoxide| ok         | triflumuron          | ok         |
| fenuron              | ok         | triflusulfuron-methyl| ok         |
| flazasulfuron        | ok         | tritorine            | ok         |
| flonicamid           | ok         | triticonazole        | ok         |
| florasulam           | ok         | uniconazole          | ok         |
| fluazifop-P-butyl    | ok         | vamidothion          | ok         |
| fluazuron            | RSDr       | vamidothion-sulfone  | RE         |
| flucycloxuron        | ok         | vamidothion-sulfoxide| ok         |
| fludioxonil          | ok         | zoxamide             | RE         |
### Table S11 Detailed Survey Results of Contaminants and Pesticides in Cereal Samples.

| No. | Matrix | Concentration [µg/kg] |
|-----|--------|----------------------|
|     |        | AOH | AME | DON | DSG | HT-2 | NIV | OTA | STG | T-2 | TEN | ZEN | CCC | AZS | CBD | CYA | DEET | DFB | EPO | IMD | MAL | PBO | PRO | PYS | TBA | TFB | THO | TCA | TFM |
| 1   | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 2   | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 3   | barley | 59  | 19  |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 4   | wheat  |     |     | 5.5 |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 5   | barley |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 6   | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 7   | barley |     |     | 453 |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 8   | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 9   | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 10  | oats   | 46  | 5.7 | 52  | 5.1 | > LIN|     |     |     | 19  | 21  |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 11  | rye    |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 12  | oats   |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 13  | rye    | 42  | 2.9 | 171 |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 14  | spelt  | > LIN| > LIN|     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 15  | wheat  | 1.1 |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 16  | wheat  |     |     | 9.9 |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 17  | rye    | 12  |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 18  | wheat  | 18  |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 19  | rye    |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 20  | rye    | 7   | 13  | 153 | 3.4 |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
| 21  | wheat  | 1.1 | 640 | 60  |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 22  | barley | 8.2 | 672 | 111 | 15  |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
| 23  | barley | 16  | 3.3 | 1034 | 179 |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
| 24  | wheat  | 4.7 |     |     |     |      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 25  | barley | 13  | 3.2 | 226 | 15  |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
| 26  | barley | 7.9 | 2.2 | 808 | 252 |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
| No. | Matrix | AOH | AME | DON | D3G | HT-2 | NIV | OTA | STG | T-2 | TEN | ZEN | CCC | AZS | CBD | CYA | DEET | DFB | EPO | IMD | MAL | PBO | PRO | PYS | TBA | TFB | THO | TCA | TFM |
|-----|--------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 27  | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 28  | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 29  | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30  | oats   |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 31  | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 32  | rice   |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 33  | oats   | 6.5 | 1.1 | 5.4 | 89  | 16   | 31  | 22  | 11  | 7.5 |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 34  | wheat  | 1.3 |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 35  | wheat  |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 36  | wheat  | 259 |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Abbreviations: AOH – alternariol; AME – alternariol monomethyl ether; DON – deoxynivalenol; D3G – deoxynivalenol-3-glucoside; HT-2 – HT-2 toxin; NIV – nivalenol; OTA – ochratoxin A; STG – sterigmatocystin; T-2 – T-2 toxin; TEN – tentoxin; ZEN – zearalenone; CCC – chlormequat; AZS – azoxystrobin; CBD – carbendazim; CYA – cyproconazole; DEET – diethyltoluamide; DFB – diflubenzuron; EPO – epoxiconazole; IMD – imidacloprid; MAL – malathion; PBO – piperonyl butoxide; PRO – propiconazole; PYS – pyraclostrobin; TBA – tebuconazole; TFB – teflubenzuron; THO – thiametoxam; TCA – tricyclazole; TFM - triflumuron