

**Table 4.** Estimated half-lives determined for sample matrices from the laboratory holding-time study (LHTS) and the first field holding-time study (FHTS1) for compounds included in provisional NWQL method LC9060. The samples were stored at 4°C in precleaned amber glass bottles for up to 60 days (FHTS1) or 90 days (LHTS).

[OBW, organic blank water; GW, laboratory supplied ground-water sample; SW, South Platte River; Hol., Holes Creek; Daw., Dawsons Creek; Hil., Hillsboro Canal; >, greater than]

| Compound                         | CAS<br>number | Median | Estimated Half-Life, in Days |     |     |                          |      |      |      |
|----------------------------------|---------------|--------|------------------------------|-----|-----|--------------------------|------|------|------|
|                                  |               |        | Lab Holding -Time Study      |     |     | Field Holding-Time Study |      |      |      |
|                                  |               |        | OBW                          | GW  | SW  | GW                       | Hol. | Daw. | Hil. |
| Positive ion compounds           |               |        |                              |     |     |                          |      |      |      |
| 2,4-D methyl ester               | 1928-38-7     | 12     | 27                           | 9   | 3   | 47                       | 13   | 11   | 12   |
| 2-Hydroxyatrazine                | 2163-68-0     | 12     | >90                          | 9   | 14  | 20                       | 15   | 12   | 10   |
| 3-(4-Chlorophenyl)-1-methyl urea | 5352-88-5     | 15     | 133                          | 83  | 27  | 15                       | 15   | 14   | 7    |
| 3-Hydroxycarbofuran              | 16655-82-6    | 10     | 8                            | 11  | 9   | 35                       | 14   | 10   | 7    |
| 3-keto-carbofuran                | 16709-30-1    | 6      | 6                            | 3   | 3   | 13                       | 6    | 6    | 5    |
| Acifluorfen*                     | 50594-66-6    | 28     | --                           | --  | --  | --                       | --   | --   | --   |
| Aldicarb                         | 116-06-3      | 8      | 15                           | 3   | 8   | 14                       | 7    | 8    | 4    |
| Aldicarb sulfone                 | 1646-88-4     | 9      | 341                          | 16  | 5   | 15                       | 9    | 7    | 5    |
| Aldicarb sulfoxide               | 1646-87-3     | 9      | 3                            | 14  | 9   | 15                       | 9    | 7    | 6    |
| Atrazine                         | 1912-24-9     | 41     | >90                          | 181 | 65  | 41                       | 37   | 34   | 31   |
| Barban (surrogate)               | 101-27-9      | 56     | 206                          | 161 | 47  | 57                       | 56   | 45   | 51   |
| Bendiocarb                       | 22781-23-3    | 18     | 7                            | 5   | 4   | 36                       | 21   | 19   | 18   |
| Benomyl                          | 17804-35-2    | 7      | 107                          | >90 | >90 | 20                       | 7    | 8    | 4    |
| Bensulfuron-methyl               | 83055-99-6    | 26     | 46                           | 76  | 37  | 25                       | 14   | 12   | 13   |
| Bentazon*                        | 25057-89-0    | 28     | --                           | --  | --  | --                       | --   | --   | --   |
| Bromacil                         | 314-40-9      | 25     | 61                           | 198 | 169 | 25                       | 11   | 9    | 7    |
| Caffeine                         | 58-08-2       | 38     | 23                           | 38  | 24  | 121                      | 59   | 40   | 33   |
| Carbaryl                         | 63-25-2       | 13     | 19                           | 12  | 13  | 21                       | 13   | 11   | 6    |
| Carbofuran                       | 1563-66-2     | 15     | 10                           | 11  | 10  | 39                       | 18   | 15   | 15   |
| Chloramben methyl ester          | 7286-84-2     | 31     | 76                           | 308 | 43  | 31                       | 14   | 14   | 5    |
| Chlorimuron-ethyl                | 90982-32-4    | 30     | 215                          | 340 | 68  | 30                       | 15   | 11   | 9    |
| Cycloate                         | 1134-23-2     | 11     | 7                            | 37  | 24  | 16                       | 11   | 8    | 8    |
| Deethylatrazine                  | 6190-65-4     | 22     | 285                          | 119 | 23  | 46                       | 22   | 17   | 16   |
| Desethyl desisopropyl atrazine   | 3397-62-4     | 29     | 4                            | 6   | 5   | 49                       | 84   | 60   | 29   |
| Deisopropylatrazine              | 1007-28-9     | 51     | 235                          | 98  | 15  | 53                       | 51   | 49   | 25   |
| Diphenamid                       | 957-51-7      | 24     | 32                           | 33  | 20  | 29                       | 23   | 19   | 24   |
| Diuron                           | 330-54-1      | 22     | >90                          | >90 | 174 | 43                       | 22   | 19   | 23   |
| Fenuron                          | 101-42-8      | 16     | 14                           | 9   | 14  | 53                       | 24   | 20   | 16   |
| Flumetsulam                      | 98967-40-9    | 20     | 79                           | 71  | 17  | 24                       | 20   | 11   | 6    |
| Fluometuron                      | 2164-17-2     | 37     | 16                           | 23  | 18  | 56                       | 38   | 40   | 37   |
| Imazaquin                        | 81335-37-7    | 17     | 79                           | 70  | 33  | 16                       | 17   | 6    | 7    |
| Imazethapyr                      | 81335-77-5    | 18     | 46                           | 43  | 44  | 18                       | 18   | 13   | 8    |

\* estimated half life calculated using the median of 14 pesticides as noted on p 12.

**Table 4.** Estimated half-lives determined for sample matrices from the laboratory holding-time study (LHTS) and the first field holding-time study (FHTS1) for compounds included in provisional NWQL method LC9060. The samples were stored at 4°C in precleaned amber glass bottles for up to 60 days (FHTS1) or 90 days (LHTS)—Continued

| Compound                      | CAS number  | Median | Estimated Half-Life, in Days |     |     |                          |      |      |      |
|-------------------------------|-------------|--------|------------------------------|-----|-----|--------------------------|------|------|------|
|                               |             |        | Lab Holding -Time Study      |     |     | Field Holding-Time Study |      |      |      |
|                               |             |        | OBW                          | GW  | SW  | GW                       | Hol. | Daw. | Hil. |
| Imidacloprid                  | 138261-41-3 | 52     | 81                           | 773 | 52  | 56                       | 25   | 21   | 19   |
| Linuron                       | 330-55-2    | 18     | >90                          | >90 | 64  | 59                       | 20   | 18   | 17   |
| Metalaxyl                     | 57837-19-1  | 39     | 21                           | 47  | 23  | 39                       | 39   | 32   | 42   |
| Methiocarb                    | 2032-65-7   | 14     | 6                            | 14  | 15  | 32                       | 14   | 12   | 8    |
| Methomyl                      | 16752-77-5  | 11     | 6                            | 92  | 26  | 27                       | 11   | 8    | 5    |
| Methomyl oxime                | 13749-94-5  | 4      | 2                            | 3   | 4   | 23                       | 12   | 4    | 6    |
| Metsulfuron-methyl            | 74223-64-6  | 18     | 58                           | 5   | 3   | 50                       | 31   | 11   | 18   |
| Neburon                       | 555-37-3    | 18     | 89                           | >90 | 75  | 22                       | 18   | 16   | 11   |
| Nicosulfuron                  | 111991-09-4 | 21     | 93                           | 66  | 24  | 21                       | 16   | 8    | 9    |
| Norflurazon                   | 27314-13-2  | 62     | 117                          | 284 | 62  | 57                       | 48   | 71   | 25   |
| Oryzalin                      | 19044-88-3  | 12     | 15                           | 17  | 12  | 22                       | 11   | 9    | 6    |
| Oxamyl                        | 23135-22-0  | 9      | 9                            | 18  | 6   | 18                       | 8    | 9    | 6    |
| Oxamyl Oxime                  | 30558-43-1  | 10     | 22                           | 45  | 3   | 13                       | 9    | 10   | 5    |
| Propham                       | 122-42-9    | 29     | 39                           | 54  | 29  | 41                       | 15   | 11   | 10   |
| Propiconazole                 | 60207-90-1  | 26     | 105                          | 89  | 42  | 26                       | 16   | 15   | 13   |
| Propoxur                      | 114-26-1    | 18     | 13                           | 18  | 13  | 36                       | 24   | 20   | 17   |
| Siduron                       | 1982-49-6   | 39     | 39                           | 65  | 36  | 26                       | 44   | 34   | 39   |
| Sulfometuron-methyl           | 74222-97-2  | 20     | 59                           | 105 | 31  | 20                       | 13   | 7    | 11   |
| Tebuthiuron                   | 34014-18-1  | 36     | 52                           | 56  | 24  | 106                      | 37   | 33   | 36   |
| Terbacil                      | 5902-51-2   | 11     | 43                           | 21  | 10  | 24                       | 11   | 9    | 8    |
| Tribenuron-methyl             | 101200-48-0 | 18     | 115                          | 91  | 118 | 30                       | 18   | 11   | 9    |
| <b>Negative ion compounds</b> |             |        |                              |     |     |                          |      |      |      |
| 2,4,5-T (Surrogate)           | 93-76-5     | 21     |                              |     |     | 29                       | 19   | 22   | 14   |
| 2,4-D                         | 94-75-7     | 37     |                              |     |     | 45                       | 36   | 37   | 25   |
| 2,4-DB                        | 94-82-6     | 18     |                              |     |     | 34                       | 17   | 20   | 9    |
| Bromoxynil                    | 1689-84-5   | 26     |                              |     |     | 54                       | 26   | 25   | 9    |
| Chlorothalonil                | 1897-45-6   | 29     |                              |     |     | 7                        | 51   | 63   | 4    |
| Clopyralid                    | 1702-17-6   | 36     |                              |     |     | 38                       | 38   | 35   | 30   |
| Dacthal, mono acid            | 887-54-7    | 29     |                              |     |     | 30                       | 30   | 29   | 20   |
| Dicamba                       | 1918-00-9   | 25     |                              |     |     | 36                       | 25   | 25   | 16   |
| Dichlorprop                   | 120-36-5    | 30     |                              |     |     | 37                       | 28   | 31   | 22   |
| Dinoseb                       | 88-85-7     | 18     |                              |     |     | 27                       | 17   | 20   | 12   |

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| Compound  | CAS<br>number | Median | Estimated Half-Life, in Days |    |    |                          |      |      |      |
|-----------|---------------|--------|------------------------------|----|----|--------------------------|------|------|------|
|           |               |        | Lab Holding -Time Study      |    |    | Field Holding-Time Study |      |      |      |
|           |               |        | OBW                          | GW | SW | GW                       | Hol. | Daw. | Hil. |
| MCPA      | 94-74-6       | 27     |                              |    |    | 34                       | 26   | 28   | 16   |
| MCPB      | 94-81-5       | 27     |                              |    |    | 39                       | 25   | 29   | 17   |
| Picloram  | 1918-02-1     | 33     |                              |    |    | 43                       | 35   | 31   | 19   |
| Triclopyr | 55335-06-3    | 32     |                              |    |    | 39                       | 30   | 34   | 17   |