# Appendix b

**parameterization of spray drift INPUT**

As explained in Section 5.2 of the report, pesticide spray drift values were determined by (1) selecting appropriate percentile drift values to obtain an overall 90th percentile drift loading for the entire application season and (2) developing regression curves for each crop and number of applications using a power law function.

This appendix contains the regression parameters obtained from fitting the spray drift data for each crop grouping and each number of applications. The spray drift calculator used in Step 3 calculations is contained in SWASH and can be accessed by selecting the “Information” tab and the “Drift” button within SWASH. Slight differences exist between this table and the values listed in SWASH due to rounding.

**Table B.1.** *Model parameters (A, B, C and D) and hinge distance (m)*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Crop grouping** | **Number**  **of**  **applns** | **Percentile** |  | |  | | **Hinge distance (m)\*** |
| **A** | **B** | **C** | **D** |
| Arable crops | 1 | 90 | 2.7593 | -0.9778 | -- | -- | -- |
| and | 2 | 82 | 2.4376 | -1.0100 | -- | -- | -- |
| veg crops | 3 | 77 | 2.0244 | -0.9956 | -- | -- | -- |
| < 50 cm | 4 | 74 | 1.8619 | -0.9861 | -- | -- | -- |
|  | 5 | 72 | 1.7942 | -0.9943 | -- | -- | -- |
|  | 6 | 70 | 1.6314 | -0.9861 | -- | -- | -- |
|  | 7 | 69 | 1.5784 | -0.9811 | -- | -- | -- |
|  | 8 | 67 | 1.5119 | -0.9832 | -- | -- | -- |
| Hops | 1 | 90 | 58.247 | -1.0042 | 8654.9 | -2.8354 | 15.3 |
|  | 2 | 82 | 66.243 | -1.2001 | 5555.3 | -2.8231 | 15.3 |
|  | 3 | 77 | 60.397 | -1.2132 | 4060.9 | -2.7625 | 15.1 |
|  | 4 | 74 | 58.559 | -1.2171 | 3670.4 | -2.7619 | 14.6 |
|  | 5 | 72 | 59.548 | -1.2481 | 2860.6 | -2.7036 | 14.3 |
|  | 6 | 70 | 60.136 | -1.2699 | 2954.0 | -2.7269 | 14.5 |
|  | 7 | 69 | 59.774 | -1.2813 | 3191.6 | -2.7665 | 14.6 |
|  | 8 | 67 | 53.200 | -1.2469 | 3010.1 | -2.7549 | 14.6 |
| Vines, | 1 | 90 | 44.769 | -1.5643 | -- | -- | -- |
| late applns | 2 | 82 | 40.262 | -1.5771 | -- | -- | -- |
| and | 3 | 77 | 39.314 | -1.5842 | -- | -- | -- |
| veg > 50 cm | 4 | 74 | 37.401 | -1.5746 | -- | -- | -- |
|  | 5 | 72 | 37.767 | -1.5829 | -- | -- | -- |
|  | 6 | 70 | 36.908 | -1.5905 | -- | -- | -- |
|  | 7 | 69 | 35.498 | -1.5844 | -- | -- | -- |
|  | 8 | 67 | 35.094 | -1.5819 | -- | -- | -- |
| Vines, | 1 | 90 | 15.793 | -1.6080 | -- | -- | -- |
| early applns | 2 | 82 | 15.461 | -1.6599 | -- | -- | -- |
|  | 3 | 77 | 16.887 | -1.7223 | -- | -- | -- |
|  | 4 | 74 | 16.484 | -1.7172 | -- | -- | -- |
|  | 5 | 72 | 15.648 | -1.7072 | -- | -- | -- |
|  | 6 | 70 | 15.119 | -1.6999 | -- | -- | -- |
|  | 7 | 69 | 14.675 | -1.6936 | -- | -- | -- |
|  | 8 | 67 | 14.948 | -1.7177 | -- | -- | -- |

\* When a hinge distance is listed, two regression curves have been fitted to the data. The first drift regression curve uses parameters A and B and extends from the edge of the treated field to the hinge distance. The second regression curve uses parameters C and D and extends from the hinge distance to distances greater than the hinge distance. Mathematical equations for the regression curves are discussed in Section 5.2.

**Table B.1. *Model parameters (A, B, C and D) and hinge distance (m), continued***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Crop grouping** | **Number**  **of**  **applns** | **Percentile** |  | |  | | **Hinge distance (m)\*** |
| **A** | **B** | **C** | **D** |
| Pome/ | 1 | 90 | 60.396 | -1.2249 | 210.70 | -1.7599 | 10.3 |
| stone fruit, | 2 | 82 | 42.002 | -1.1306 | 298.76 | -1.9464 | 11.1 |
| late applns | 3 | 77 | 40.120 | -1.1769 | 247.78 | -1.9299 | 11.2 |
|  | 4 | 74 | 36.273 | -1.1616 | 201.98 | -1.8769 | 11.0 |
|  | 5 | 72 | 34.591 | -1.1533 | 197.08 | -1.8799 | 11.0 |
|  | 6 | 70 | 31.640 | -1.1239 | 228.69 | -1.9519 | 10.9 |
|  | 7 | 69 | 31.561 | -1.1318 | 281.84 | -2.0087 | 12.1 |
|  | 8 | 67 | 29.136 | -1.1048 | 256.33 | -1.9902 | 11.7 |
| Pome/ | 1 | 90 | 66.702 | -0.7520 | 3867.9 | -2.4183 | 11.4 |
| stone fruit, | 2 | 82 | 62.272 | -0.8116 | 7961.7 | -2.6854 | 13.3 |
| early applns | 3 | 77 | 58.796 | -0.8171 | 9598.8 | -2.7706 | 13.6 |
|  | 4 | 74 | 58.947 | -0.8331 | 8609.8 | -2.7592 | 13.3 |
|  | 5 | 72 | 58.111 | -0.8391 | 7684.6 | -2.7366 | 13.1 |
|  | 6 | 70 | 58.829 | -0.8644 | 7065.6 | -2.7323 | 13.0 |
|  | 7 | 69 | 59.912 | -0.8838 | 7292.9 | -2.7463 | 13.2 |
|  | 8 | 67 | 59.395 | -0.8941 | 7750.9 | -2.7752 | 13.3 |
| Aerial appln | 1 | 90 | 50.470 | -0.3819 | 281.1 | -0.9989 | 16.2 |

\* When a hinge distance is listed, two regression curves have been fitted to the data. The first drift regression curve uses parameters A and B and extends from the edge of the treated field to the hinge distance. The second regression curve uses parameters C and D and extends from the hinge distance to distances greater than the hinge distance. Mathematical equations for the regression curves are discussed in Section 5.2.

**Examples of the regression fits for the various crop groupings**

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