

Tables

Table 1: Tested parameter values. The limits of the tested and selected values after calibration are shown for diuron and glyphosate. The mean and standard deviation of the selected values for each tested parameter are also provided.

Table 2: Performance ratings for NSE and PBIAS (after Moriasi et al., 2015).

Table 3: Simulated periods for model calibration and validation for diuron and glyphosate.

Table 4: Pearson correlation coefficients calculated from the parameter values retained after calibration, in green for diuron and blue for glyphosate. Only values significantly different from 0 are displayed (p value < 0.05).

Table 5: Wilcoxon test results for all groups of flood events shown in Fig. 5. This test was performed to determine whether the median RE of each two-month interval significantly differed from 0 at the 5% significance level.

Table 1: Tested parameter values. The limits of the tested and selected values after calibration are shown for diuron and glyphosate. The mean and standard deviation of the selected values for each tested parameter are also provided.

| | | K_D^1 (L.kg ⁻¹) | $t_{1/2}^2$ (j) | z_{mix}^3 (cm) | b^4 |
|-----------------|--------------|-------------------------------|-----------------|--------------------------|---------|
| Glyphosate | | | | | |
| Tested values | distribution | Uniform | Uniform | Uniform log ⁵ | Uniform |
| | min | 5 | 1 | 0.1 | 0.1 |
| | max | 510 | 80 | 4 | 5 |
| Selected values | min | 181.8 | 51 | 0.1 | 0.3 |
| | max | 438.2 | 58.2 | 1 | 4.9 |
| | mean | 364.6 | 54.4 | 0.3 | 2.8 |
| | sd | 67.6 | 2.4 | 0.2 | 1.7 |
| Diuron | | | | | |
| Tested values | distribution | Uniform | Uniform | Uniform log ⁵ | Uniform |
| | min | 5 | 5 | 0.1 | 0.1 |
| | max | 143.7 | 100 | 4 | 5 |
| Selected values | min | 31.8 | 34.5 | 0.1 | 0.4 |
| | max | 40.3 | 37.2 | 1 | 4.9 |
| | mean | 35.3 | 35.6 | 0.4 | 2.6 |
| | sd | 2.7 | 0.6 | 0.3 | 1.5 |

¹the sorption coefficient

²the compound half-life

³the mixing layer thickness

⁴the exponent of Walker's function

⁵Uniform distribution of log-transformed values

Table 2: Performance ratings for NSE and PBIAS (after Moriasi et al., 2015).

| | NSE | PBIAS |
|----------------|---------------|------------------|
| Very good | NSE>0.65 | PBIAS <15 % |
| Good | 0.50<NSE≤0.65 | 15%≤ PBIAS <20 % |
| Satisfactory | 0.35<NSE≤0.50 | 20%≤ PBIAS <30 % |
| Unsatisfactory | NSE≤0.35 | 30% ≤ PBIAS |

Table 3: Simulated periods for model calibration and validation for diuron and glyphosate.

| <i>Simulated period</i> | | <i>Calibration</i> | <i>Validation</i> |
|-------------------------|-------------------|----------------------|--------------------------------|
| Diuron | 03/1993 - 03/2009 | 03/2002 - | 04/1995 - 04/1996 & 04/1997 - |
| | | 03/2005 | 03/2000 & 04/2005 - 03/2009 |
| Glyphosate | 09/2000 - 03/2014 | 03/2002 - 03/2005 | 03/2008-03/2014 |

Table 4: Pearson correlation coefficients calculated from the parameter values retained after calibration, in green for diuron and blue for glyphosate. Only values significantly different from 0 are displayed (p value < 0.05).

| | K_D | t_{1/2} | z_{mix} |
|------------------------|----------------------|------------------------|------------------------|
| K_D | 1 | 0.65 | -0.92 |
| t_{1/2} | 0.76 | 1 | - |
| z_{mix} | -0.17 | -0.32 | 1 |

Table 5: Wilcoxon test results for all groups of flood events shown in Fig. 5. This test was performed to determine whether the median RE of each two-month interval significantly differed from 0 at the 5% significance level.

| Wilcoxon test – p value | | | | | | |
|-----------------------------------|--------|---------------------------|--------|--------|---------------------------|---------------------------|
| Month after herbicide application | | | | | | |
| Relative error | 0-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-12 |
| Diuron | 0.6556 | 0.0267¹ | 0.7778 | 0.3574 | 0.0008¹ | 0.0313¹ |
| Glyphosate | 0.7898 | 0.7898 | 0.1743 | 0.0833 | 1 | 0.6250 |

¹<0.05