**Summary of Water Modeling of Chlorantraniliprole BTM and the USEPA Standard Pond**

Estimated Environmental Concentrations for Chlorantraniliprole BTM are presented in Table 1 for the USEPA standard pond with the PAappleSTD\_V2 field scenario. A graphical presentation of the year-to-year peaks is presented in Figure 1. These values were generated with the Pesticide Water Calculator (PWC), Version 1.52. Critical input values for the model are summarized in Tables 2 and 3.

This model estimates that about 0.51% of Chlorantraniliprole BTM applied to the field eventually reaches the water body. The main mechanism of transport from the field to the water body is by runoff (77.6% of the total transport), followed by spray drift (19.6%) and erosion (2.86%).

In the water body, pesticide dissipates with an effective water column half-life of 40.9 days. (This value does not include dissipation by transport to the benthic region; it includes only processes that result in removal of pesticide from the complete system.) The main source of dissipation in the water column is photolysis (effective average half-life = 45 days) followed by metabolism (453.7 days) and volatilization (5.162239E+12 days).

In the benthic region, pesticide dissipates very slowly (408.5 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 408.5 days). The vast majority of the pesticide in the benthic region (98.91%) is sorbed to sediment rather than in the pore water.

**Table 1. Estimated Environmental Concentrations (ppb) for Chlorantraniliprole BTM.**

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 0.922 |
| 4-day Avg (1-in-10 yr) | 0.863 |
| 21-day Avg (1-in-10 yr) | 0.646 |
| 60-day Avg (1-in-10 yr) | 0.437 |
| 365-day Avg (1-in-10 yr) | 0.133 |
| Entire Simulation Mean | 0.677E-01 |

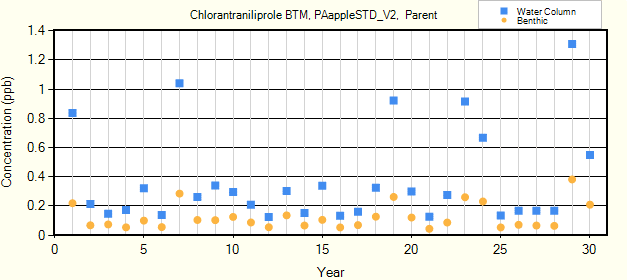
**Table 2. Summary of Model Inputs for Chlorantraniliprole BTM.**

|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1 |
| Koc (ml/g) | 839 |
| Water Half-Life (days) @ 20 °C | 231 |
| Benthic Half-Life (days) @ 20 °C | 208 |
| Photolysis Half-Life (days) @ 40 °Lat | 0.31 |
| Hydrolysis Half-Life (days) | 0 |
| Soil Half-Life (days) @ 20 °C | 631.76 |
| Foliar Half-Life (days) | 1.3 |
| Molecular Weight | 483.15 |
| Vapor Pressure (torr) | 1.57e-13 |
| Solubility (mg/l) | 1.023 |
| Henry's Constant | 3.1e-15 |

**Table 3. Application Schedule for Chlorantraniliprole BTM.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.221 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



**Summary of Water Modeling of Chlorantraniliprole BTM and the USEPA Standard Reservoir**

Estimated Environmental Concentrations for Chlorantraniliprole BTM are presented in Table 1 for the USEPA standard reservoir with the PAappleSTD\_V2 field scenario. A graphical presentation of the year-to-year peaks is presented in Figure 1. These values were generated with the Pesticide Water Calculator (PWC), Version 1.52. Critical input values for the model are summarized in Tables 2 and 3.

This model estimates that about 0.44% of Chlorantraniliprole BTM applied to the field eventually reaches the water body. The main mechanism of transport from the field to the water body is by runoff (89.8% of the total transport), followed by spray drift (6.9%) and erosion (3.26%).

In the water body, pesticide dissipates with an effective water column half-life of 39.0 days. (This value does not include dissipation by transport to the benthic region; it includes only processes that result in removal of pesticide from the complete system.) The main source of dissipation in the water column is photolysis (effective average half-life = 61.6 days) followed by washout (138.5 days), metabolism (453.7 days), and volatilization (7.072268E+12 days).

In the benthic region, pesticide dissipates very slowly (408.5 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 408.5 days). The vast majority of the pesticide in the benthic region (98.91%) is sorbed to sediment rather than in the pore water.

**Table 1. Estimated Environmental Concentrations (ppb) for Chlorantraniliprole BTM.**

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 2.09 |
| 4-day Avg (1-in-10 yr) | 1.97 |
| 21-day Avg (1-in-10 yr) | 1.52 |
| 60-day Avg (1-in-10 yr) | 1.07 |
| 365-day Avg (1-in-10 yr) | 0.309 |
| Entire Simulation Mean | 0.142 |

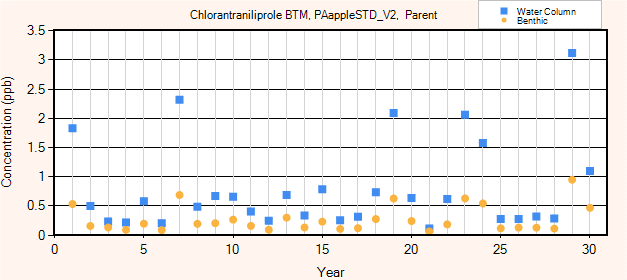
**Table 2. Summary of Model Inputs for Chlorantraniliprole BTM.**

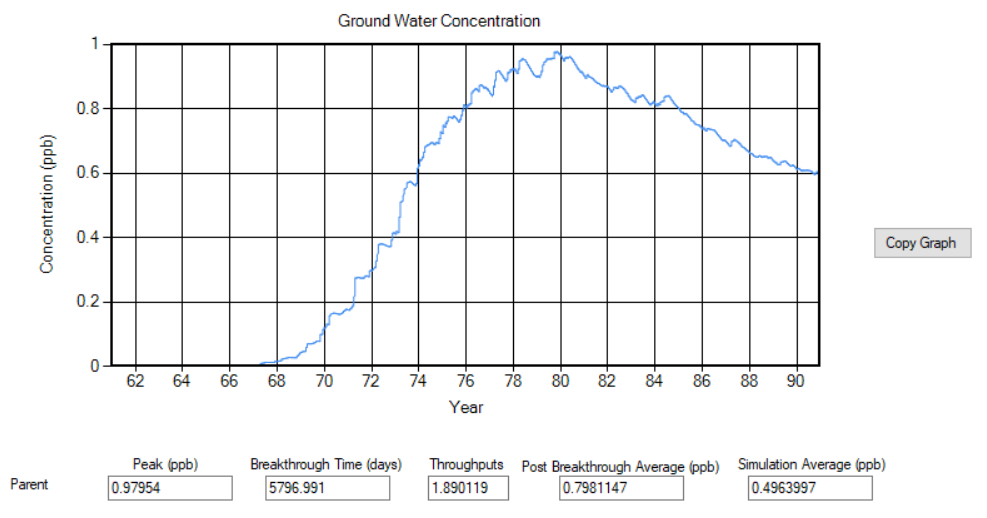
|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1.0 |
| Koc (ml/g) | 839 |
| Water Half-Life (days) @ 20 °C | 231 |
| Benthic Half-Life (days) @ 20 °C | 208 |
| Photolysis Half-Life (days) @ 40 °Lat | 0.31 |
| Hydrolysis Half-Life (days) | 0 |
| Soil Half-Life (days) @ 20 °C | 631.76 |
| Foliar Half-Life (days) | 1.3 |
| Molecular Weight | 483.15 |
| Vapor Pressure (torr) | 1.57e-13 |
| Solubility (mg/l) | 1.023 |
| Henry's Constant | 3.1e-15 |

**Table 3. Application Schedule for Chlorantraniliprole BTM.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.221 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



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