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

Estimated Environmental Concentrations for Indoxacarb 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 0.77% of Indoxacarb 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 (74.7% of the total transport), followed by spray drift (12.9%) and erosion (12.4%).

In the water body, pesticide dissipates with an effective water column half-life of 27.6 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 hydrolysis (effective average half-life = 38.3 days) followed by metabolism (113.9 days), photolysis (729.5 days), and volatilization (1.051106E+08 days).

In the benthic region, pesticide dissipates very slowly (590.0 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 618.9 days) followed by hydrolysis (12637.8 days). The vast majority of the pesticide in the benthic region ( 99.7%) is sorbed to sediment rather than in the pore water.

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

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 0.793 |
| 4-day Avg (1-in-10 yr) | 0.701 |
| 21-day Avg (1-in-10 yr) | 0.416 |
| 60-day Avg (1-in-10 yr) | 0.257 |
| 365-day Avg (1-in-10 yr) | 0.131 |
| Entire Simulation Mean | 0.855E-01 |

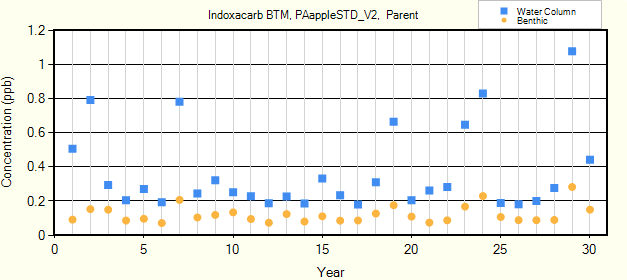
**Table 2. Summary of Model Inputs for Indoxacarb BTM.**

|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1 |
| Koc (ml/g) | 3070 |
| Water Half-Life (days) @ 20 °C | 58 |
| Benthic Half-Life (days) @ 20 °C | 315.1 |
| Photolysis Half-Life (days) @ 40 °Lat | 5 |
| Hydrolysis Half-Life (days) | 38 |
| Soil Half-Life (days) @ 20 °C | 693 |
| Foliar Half-Life (days) | 3.4 |
| Molecular Weight | 527.8 |
| Vapor Pressure (torr) | 1.9e-10 |
| Solubility (mg/l) | 0.8 |
| Henry's Constant | 1.6e-10 |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.252 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



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

Estimated Environmental Concentrations for Indoxacarb 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 0.7% of Indoxacarb 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 (82.4% of the total transport), followed by erosion (13.2%) and spray drift (4.34%).

In the water body, pesticide dissipates with an effective water column half-life of 23.2 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 hydrolysis (effective average half-life = 38.3 days) followed by metabolism (113.9 days), washout (138.5 days), photolysis (999.5 days), and volatilization (1.440016E+08 days).

In the benthic region, pesticide dissipates very slowly (590.0 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 618.9 days) followed by hydrolysis (12637.8 days). The vast majority of the pesticide in the benthic region ( 99.7%) is sorbed to sediment rather than in the pore water.

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

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 1.88 |
| 4-day Avg (1-in-10 yr) | 1.68 |
| 21-day Avg (1-in-10 yr) | 1.03 |
| 60-day Avg (1-in-10 yr) | 0.611 |
| 365-day Avg (1-in-10 yr) | 0.279 |
| Entire Simulation Mean | 0.168 |

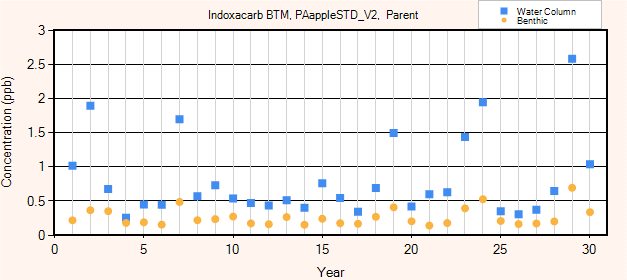
**Table 2. Summary of Model Inputs for Indoxacarb BTM.**

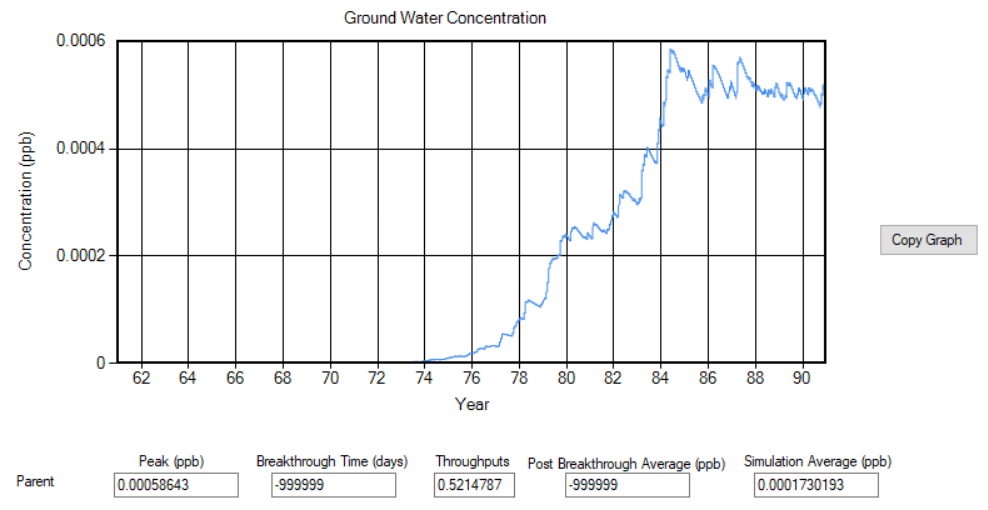
|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1.0 |
| Koc (ml/g) | 3070 |
| Water Half-Life (days) @ 20 °C | 58 |
| Benthic Half-Life (days) @ 20 °C | 315.1 |
| Photolysis Half-Life (days) @ 40 °Lat | 5 |
| Hydrolysis Half-Life (days) | 38 |
| Soil Half-Life (days) @ 20 °C | 693 |
| Foliar Half-Life (days) | 3.4 |
| Molecular Weight | 527.8 |
| Vapor Pressure (torr) | 1.9e-10 |
| Solubility (mg/l) | 0.8 |
| Henry's Constant | 1.6e-10 |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.252 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



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