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

Estimated Environmental Concentrations for Dicrotophos 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 0.19% of Dicrotophos 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 (100% of the total transport) followed by erosion (0.01%).

In the water body, pesticide dissipates with an effective water column half-life of 72.0 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 hydrolysis (effective average half-life = 72 days) followed by volatilization (3.574984E+08 days).

In the benthic region, pesticide dissipates slowly (89.7 days). The main source of dissipation in the benthic region is hydrolysis (effective average half-life = 89.7 days). Most of the pesticide in the benthic region (about 80%) is in the pore water rather than sorbed to sediment.

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

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 1.61 |
| 4-day Avg (1-in-10 yr) | 1.58 |
| 21-day Avg (1-in-10 yr) | 1.45 |
| 60-day Avg (1-in-10 yr) | 1.22 |
| 365-day Avg (1-in-10 yr) | 0.428 |
| Entire Simulation Mean | 0.163 |

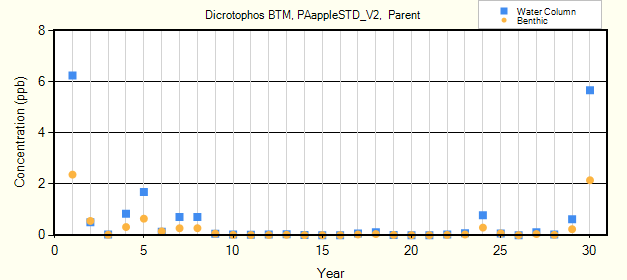
**Table 2. Summary of Model Inputs for Dicrotophos BTM.**

|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1 |
| Koc (ml/g) | 2.27 |
| Water Half-Life (days) @ 20 °C |  |
| Benthic Half-Life (days) @ 20 °C |  |
| Photolysis Half-Life (days) @ 40 °Lat | 0 |
| Hydrolysis Half-Life (days) | 72 |
| Soil Half-Life (days) @ 20 °C | 2.7 |
| Foliar Half-Life (days) | 1 |
| Molecular Weight | 237.21 |
| Vapor Pressure (torr) | 1.6e-4 |
| Solubility (mg/l) | 100000 |
| Henry's Constant | 3.13e-11 |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.629 | 0.99 | 0 |

**Figure 1. Yearly Peak Concentrations**



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

Estimated Environmental Concentrations for Dicrotophos 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 0.19% of Dicrotophos 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 (100% of the total transport) followed by erosion (0.01%).

In the water body, pesticide dissipates with an effective water column half-life of 47.4 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 = 72 days) followed by washout (138.5 days) and volatilization (4.897728E+08 days).

In the benthic region, pesticide dissipates slowly (89.7 days). The main source of dissipation in the benthic region is hydrolysis (effective average half-life = 89.7 days). Most of the pesticide in the benthic region (about 80%) is in the pore water rather than sorbed to sediment.

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

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 3.81 |
| 4-day Avg (1-in-10 yr) | 3.70 |
| 21-day Avg (1-in-10 yr) | 3.28 |
| 60-day Avg (1-in-10 yr) | 2.53 |
| 365-day Avg (1-in-10 yr) | 0.701 |
| Entire Simulation Mean | 0.264 |

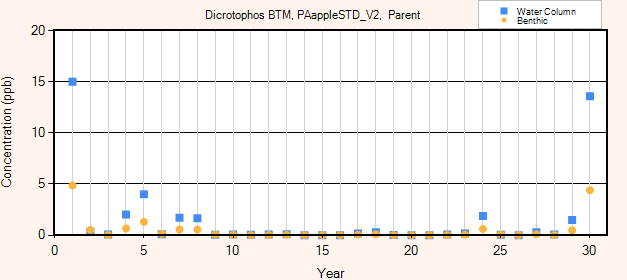
**Table 2. Summary of Model Inputs for Dicrotophos BTM.**

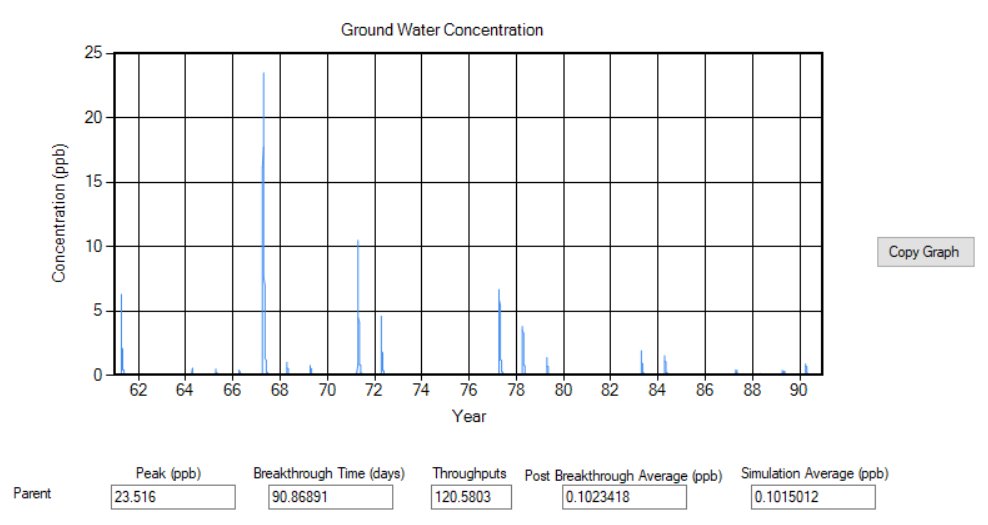
|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1.0 |
| Koc (ml/g) | 2.27 |
| Water Half-Life (days) @ 20 °C |  |
| Benthic Half-Life (days) @ 20 °C |  |
| Photolysis Half-Life (days) @ 40 °Lat | 0 |
| Hydrolysis Half-Life (days) | 72 |
| Soil Half-Life (days) @ 20 °C | 2.7 |
| Foliar Half-Life (days) | 1 |
| Molecular Weight | 237.21 |
| Vapor Pressure (torr) | 1.6e-4 |
| Solubility (mg/l) | 100000 |
| Henry's Constant | 3.13e-11 |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.629 | 0.99 | 0 |

**Figure 1. Yearly Peak Concentrations**



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