**Summary of Water Modeling of Emamectin benzoate BTM and the USEPA Standard Pond**

Estimated Environmental Concentrations for Emamectin benzoate 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% of Emamectin benzoate BTM applied to the field eventually reaches the water body.

In the water body, pesticide dissipates with an effective water column half-life of 971.6 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 metabolism (effective average half-life = 1182.3 days) followed by photolysis (5453.1 days) and volatilization (9.720261E+07 days).

In the benthic region, pesticide dissipates very slowly (838.6 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 838.6 days). The vast majority of the pesticide in the benthic region ( 100%) is sorbed to sediment rather than in the pore water.

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

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 0.00 |
| 4-day Avg (1-in-10 yr) | 0.00 |
| 21-day Avg (1-in-10 yr) | 0.00 |
| 60-day Avg (1-in-10 yr) | 0.00 |
| 365-day Avg (1-in-10 yr) | 0.00 |
| Entire Simulation Mean | 0.00 |

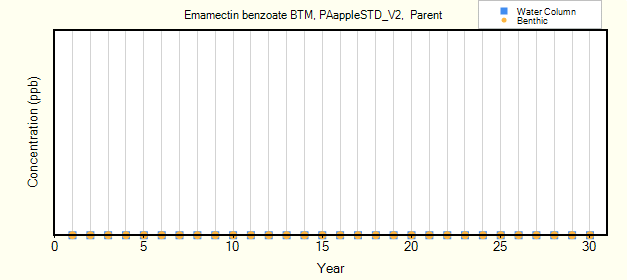
**Table 2. Summary of Model Inputs for Emamectin benzoate BTM.**

|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1 |
| Koc (ml/g) | 265687 |
| Water Half-Life (days) @ 20 °C | 602 |
| Benthic Half-Life (days) @ 20 °C | 427 |
| Photolysis Half-Life (days) @ 40 °Lat | 23 |
| Hydrolysis Half-Life (days) | 0 |
| Soil Half-Life (days) @ 20 °C | 193 |
| Foliar Half-Life (days) | 38 |
| Molecular Weight | 964.23 |
| Vapor Pressure (torr) | 3e-8 |
| Solubility (mg/l) | 24 |
| Henry's Constant | 3.8e-10 |

**Table 3. Application Schedule for Emamectin benzoate BTM.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Placed at a depth of 5 cm | 0.192 | 0.99 | 0 |

**Figure 1. Yearly Peak Concentrations**



**Summary of Water Modeling of Emamectin benzoate BTM and the USEPA Standard Reservoir**

Estimated Environmental Concentrations for Emamectin benzoate 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% of Emamectin benzoate BTM applied to the field eventually reaches the water body.

In the water body, pesticide dissipates with an effective water column half-life of 122.0 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 washout (effective average half-life = 138.5 days) followed by metabolism (1182.3 days), photolysis (7470.8 days), and volatilization (1.331676E+08 days).

In the benthic region, pesticide dissipates very slowly (838.6 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 838.6 days). The vast majority of the pesticide in the benthic region ( 100%) is sorbed to sediment rather than in the pore water.

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

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 0.00 |
| 4-day Avg (1-in-10 yr) | 0.00 |
| 21-day Avg (1-in-10 yr) | 0.00 |
| 60-day Avg (1-in-10 yr) | 0.00 |
| 365-day Avg (1-in-10 yr) | 0.00 |
| Entire Simulation Mean | 0.00 |

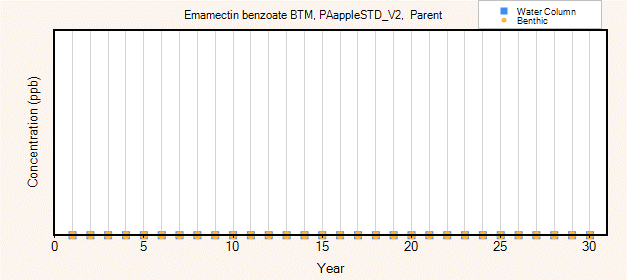
**Table 2. Summary of Model Inputs for Emamectin benzoate BTM.**

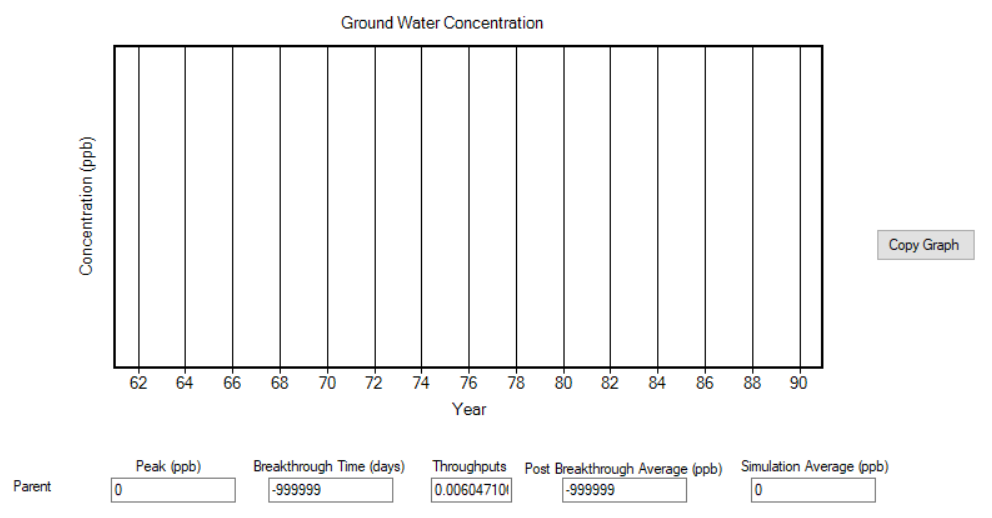
|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1.0 |
| Koc (ml/g) | 265687 |
| Water Half-Life (days) @ 20 °C | 602 |
| Benthic Half-Life (days) @ 20 °C | 427 |
| Photolysis Half-Life (days) @ 40 °Lat | 23 |
| Hydrolysis Half-Life (days) | 0 |
| Soil Half-Life (days) @ 20 °C | 193 |
| Foliar Half-Life (days) | 38 |
| Molecular Weight | 964.23 |
| Vapor Pressure (torr) | 3e-8 |
| Solubility (mg/l) | 24 |
| Henry's Constant | 3.8e-10 |

**Table 3. Application Schedule for Emamectin benzoate BTM.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Placed at a depth of 5 cm | 0.192 | 0.99 | 0 |

**Figure 1. Yearly Peak Concentrations**



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