**Summary of Water Modeling of Acetamiprid BTM Nut Tree and the USEPA Standard Pond**

Estimated Environmental Concentrations for Acetamiprid BTM Nut Tree 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 0.56% of Acetamiprid BTM Nut Tree applied to the field eventually reaches the water body. The main mechanism of transport from the field to the water body is by runoff (80.8% of the total transport), followed by spray drift (17.7%) and erosion (1.46%).

In the water body, pesticide dissipates with an effective water column half-life of 182.0 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 metabolism (effective average half-life = 188.9 days) followed by photolysis (4928.5 days) and volatilization (2.087031E+11 days).

In the benthic region, pesticide dissipation is negligible (1148.9 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 1148.9 days). The vast majority of the pesticide in the benthic region (97.76%) is sorbed to sediment rather than in the pore water.

**Table 1. Estimated Environmental Concentrations (ppb) for Acetamiprid BTM Nut Tree.**

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 6.17 |
| 4-day Avg (1-in-10 yr) | 6.04 |
| 21-day Avg (1-in-10 yr) | 5.56 |
| 60-day Avg (1-in-10 yr) | 4.89 |
| 365-day Avg (1-in-10 yr) | 2.43 |
| Entire Simulation Mean | 1.31 |

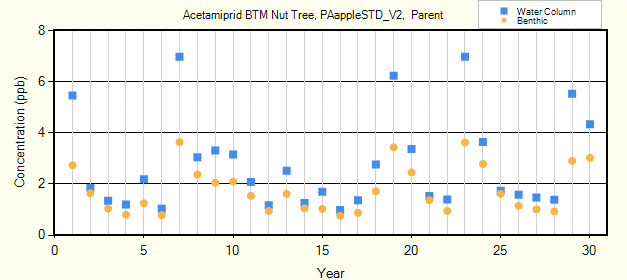
**Table 2. Summary of Model Inputs for Acetamiprid BTM Nut Tree.**

|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1 |
| Koc (ml/g) | 405 |
| Water Half-Life (days) @ 20 °C | 96.2 |
| Benthic Half-Life (days) @ 20 °C | 585 |
| Photolysis Half-Life (days) @ 40 °Lat | 34 |
| Hydrolysis Half-Life (days) | 0 |
| Soil Half-Life (days) @ 20 °C | 96.2 |
| Foliar Half-Life (days) | 6.3 |
| Molecular Weight | 222.68 |
| Vapor Pressure (torr) | 1.0e-8 |
| Solubility (mg/l) | 4250 |
| Henry's Constant | 5.2e-14 |

**Table 3. Application Schedule for Acetamiprid BTM Nut Tree.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.807 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



**Summary of Water Modeling of Acetamiprid BTM Nut Tree and the USEPA Standard Reservoir**

Estimated Environmental Concentrations for Acetamiprid BTM Nut Tree 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 0.49% of Acetamiprid BTM Nut Tree applied to the field eventually reaches the water body. The main mechanism of transport from the field to the water body is by runoff (92.2% of the total transport), followed by spray drift (6.16%) and erosion (1.65%).

In the water body, pesticide dissipates with an effective water column half-life of 79.0 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 (188.9 days), photolysis (6752.1 days), and volatilization (2.859232E+11 days).

In the benthic region, pesticide dissipation is negligible (1148.9 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 1148.9 days). The vast majority of the pesticide in the benthic region (97.76%) is sorbed to sediment rather than in the pore water.

**Table 1. Estimated Environmental Concentrations (ppb) for Acetamiprid BTM Nut Tree.**

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 12.7 |
| 4-day Avg (1-in-10 yr) | 12.4 |
| 21-day Avg (1-in-10 yr) | 11.0 |
| 60-day Avg (1-in-10 yr) | 9.16 |
| 365-day Avg (1-in-10 yr) | 3.31 |
| Entire Simulation Mean | 1.33 |

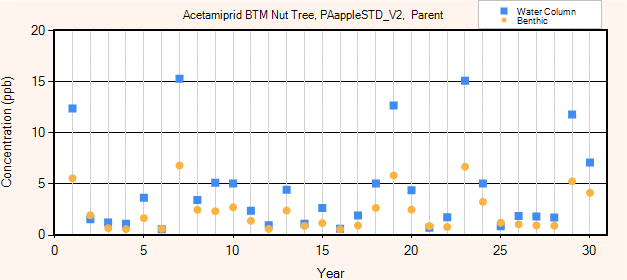
**Table 2. Summary of Model Inputs for Acetamiprid BTM Nut Tree.**

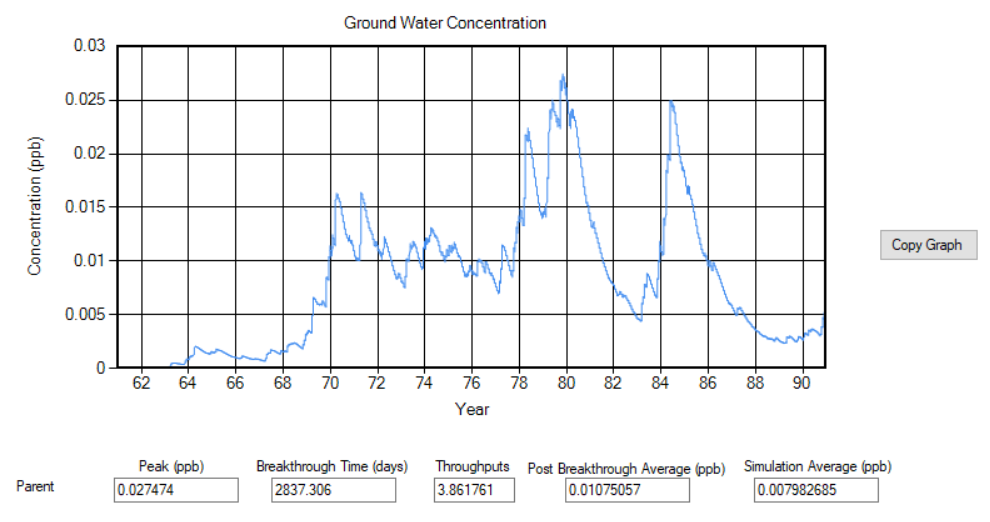
|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1.0 |
| Koc (ml/g) | 405 |
| Water Half-Life (days) @ 20 °C | 96.2 |
| Benthic Half-Life (days) @ 20 °C | 585 |
| Photolysis Half-Life (days) @ 40 °Lat | 34 |
| Hydrolysis Half-Life (days) | 0 |
| Soil Half-Life (days) @ 20 °C | 96.2 |
| Foliar Half-Life (days) | 6.3 |
| Molecular Weight | 222.68 |
| Vapor Pressure (torr) | 1.0e-8 |
| Solubility (mg/l) | 4250 |
| Henry's Constant | 5.2e-14 |

**Table 3. Application Schedule for Acetamiprid BTM Nut Tree.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 0.807 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



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