

2016 Water testing results following aerial treatments of Tebufenozide

In 2016 forested areas in northern New Brunswick were sprayed with one application of tebufenozide to control a growing spruce budworm population in that area. Tebufenozide is a synthetic insect growth regulator that was developed to control caterpillar pests in agriculture and forestry. tebufenozide is being used in the early intervention research to control spruce budworm populations.

In response to concerns about water quality by municipalities in New Brunswick, a water monitoring project was initiated by the Healthy Forest Partnership to determine the impact to water quality caused by spraying of tebufenozide on foliage within watersheds. Samples were taken 2 days and 2 weeks after the spraying of tebufenozide.

Water samples were collected from two watercourses just south of the community of Saint-Arthur. The toxicity of tebufenozide is measured in milligrams (mg) per liter (L) of water. Results from laboratory analyses of water samples show that trace levels of tebufenozide with a mean maximum concentration of 0.000083mg/L two days following treatment and 0.000021mg/L two weeks following treatments. Several studies have been conducted on the safety of tebufenozide at the worst case expected, there were no significant effects on exposed test species. Even at the maximum tested concentration of 3.5mg/L or 100x the expected environmental concentrations, there were no significant effects on survival of the test species

The 2016 Early Intervention Strategy research treatments resulted in what are essentially trace levels of tebufenozide. Many studies have been conducted to determine the effect of tebufenozide on aquatic organisms. These studies found that tebufenozide is not harmful to fish and most stream-dwelling organisms. The spraying of tebufenozide over open bodies of water (including ponds and streams) is not permitted. Studies have shown that most of the spray from aerial applications is intercepted by foliage and does not reach the ground. The small amount of spray that reaches the ground binds to organic matter and is later broken down.

If you would like a copy of the water report, please contact the Healthy Forest Partnership via the website (healthyforestpartnership.com) or telephone (1-844-216-3040).

Site Name	+2day (mg/L)	+2week (mg/L)
Northern & Southern Saint Arthur Rd.	0.000083	0.000021

Dr. Rob Johns and Emily Owens
Healthy Forest Partnership