

TECHNICAL FACT SHEET

Does ARSENAL Leach?

ARSENAL soil mobility and persistence was studied during 1991-1992 in eastern Canada. This trial represented a severe test as the trial was established on an extremely coarse-textures soil (58% sand) with low organic matter (2.6%) and a very shallow water table. ARSENAL was applied at 0.96 and 1.92 kg ai/ha (4.8 liters product/ha) in May 1991. Following application the trial area received 399 mm (16 inches) of rainfall between June and October 1991. Total precipitation during the course of the study exceeded 1000 mm (39 inches). Soil samples were taken systematically through out the trial areas to monitor vertical movement (leaching) of ARSENAL over an 18 month period following application. Results from this study showed that despite the coarse nature of the soil, high application rates and excessive rainfall, no residues of ARSENAL were detected below

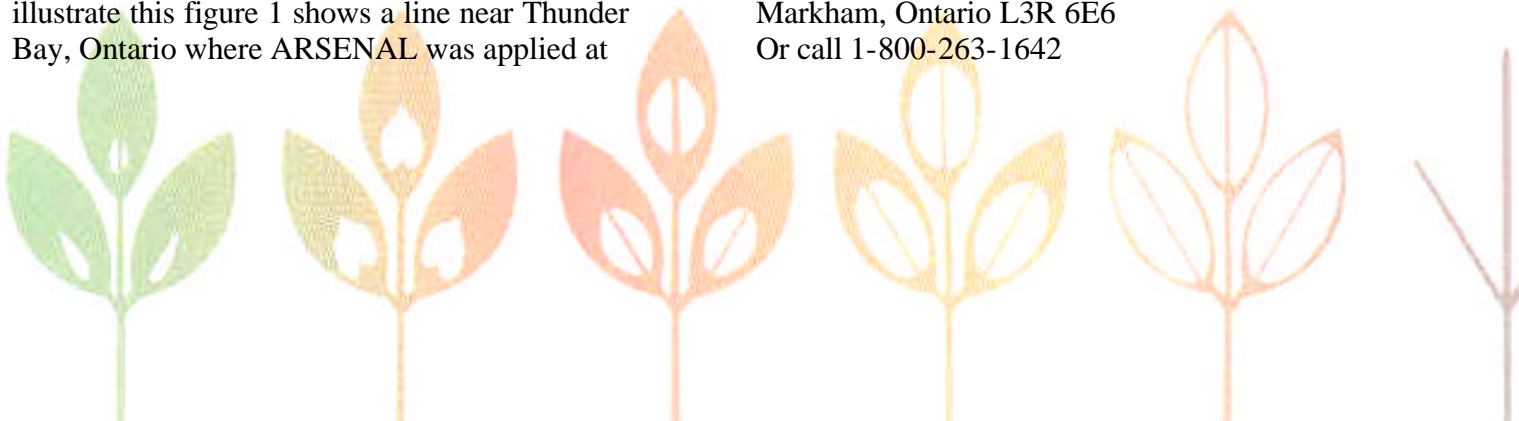
15 cm (6 inch) depth at any time following application. These data agree with similar findings in New Jersey, Alabama and Germany where ARSENAL remained in the top 20-30 profile and where lateral movement did not occur (American Cyanamid Report FHT-D289-2M-9102).

In addition to these research trials, Canadian operational trials conducted over 10 years on rail ballast with commercial equipment also support the premise that ARSENAL resists leaching. To illustrate this figure 1 shows a line near Thunder Bay, Ontario where ARSENAL was applied at

3 litres product/ha on a 54 degree gravel ballast slope. Assessment after 8 weeks showed a clear demarcation between treated and non-treated areas demonstrating that ARSENAL did not move either vertically or laterally. Similarly, figure 2 shows an operational trial established near Pugwash, Nova Scotia where unaffected vegetation adjacent to the track in the year following label applications demonstrated that ARSENAL remained in the treated area.

In contrast to these field results, laboratory studies have shown that ARSENAL may be mobile if applied to saturated soils where absorption to soil is low. It is for this reason that the label specifically warns that ARSENAL should not be applied to flooded soils. Other studies, however, have shown that application of ARSENAL to soils which subsequently flood does not pose a problem, although use on soils prone to frequent flooding may not be recommended as a precaution. With this exception – application to flooded land – data and experience prove that ARSENAL resists leaching under normal field conditions on a variety of soil types including gravel ballast.

For additional information on this subject, write:
S. MacDonald
Cyanamid Vegetation & Pest Control
88 McNabb Street
Markham, Ontario L3R 6E6
Or call 1-800-263-1642



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Figure 1.
Thunder Bay,
Ont.
Twelve
Months
following an
ARSENAL
application at
3L/ha "Note
the clear line
of demarcation
on the
54°down slope
side of the
gravel bed."

Figure 2.
Pugwash,
Nova Scotia.
Twelve months
following an
ARSENAL
application at
3L/ha.



For more information on ARSENAL, call

 **BASF AgSolutions™** at 1-877-371-BASF (2273)

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