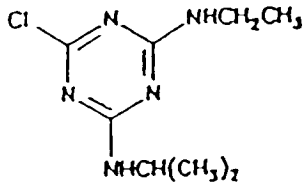
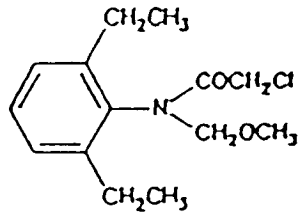
Table 1. Structures, vapor pressures and solubilities of atrazine and alachlor at 25C

Compound	Structure	Vapor pressure [a] at 25 C (mPa)	Solubility [b] at 25 C (mg/L)
Atrazine		0.082	33
Alachlor		2.9	240

[a] Vapor pressures calculated from original measurements summarized in ref. 40.

[b] "Selected value" solubilities from ref. 27.

Table 2. Concentrations (µg/g) of herbicides detected in leaf samples from randomly sampled trees near Baldwin, Iowa, exhibiting abnormal phenotypic expression.

	atrazine	metolachlor	2,4-D
August 26, 1993			
box elder	0.10	0.51	0.009
white ash #1	0.11	1.1	<0.003
white ash #2	0.10	0.30	<0.003
August 3, 1994[b]			
green ash #1	0.036		
green ash #2	0.040		
red oak	0.058		
ash [a]	0.035		

[a] Tree categorized as phenotypically "normal" (25).
[b] Metolachlor and 2,4-D not measured in 1994.

Table 3. Summary of atrazine and alachlor concentrations from on-site air samples collected following herbicide application to a corn field test plot on June 16, 1994, at ISU's Southeast Research Farm, Crawfordsville, Iowa.

	atrazine			alachlor	
June sample date	HPLC (ng/m3)	GC-MS (ng/m3)	HPLC / GC-MS	GC-MS (ng/m3)	atrazine / alachlor
16-17	1360	1130	1.20	830	1.36
18-19	300	240	1.25	170	1.41
20-21	100	88	1.14	120	0.73
22-23	nd[a]	nd	--	17	--
24-25[b]	150	110	1.36	160	0.69
26-27	nd	34	--	100	0.34

[a] nd, not detected. Atrazine HPLC estimated detection limit (EDL) is 100 ng/m^3; GC-MS EDLs are 15-30 ng/m^3.

[b] Site received 0.56 cm rain on June 24.

Figure 1. Summary of the daily weather data for the Crawfordsville, Iowa study site during the atmospheric sampling period. Precipitation is shown by the vertical bars.