



Office of
INDIANA STATE CHEMIST AND SEED COMMISSIONER

Protecting Indiana's Agriculture and Environment - Feed, Fertilizer, Pesticide and Seed

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2012 Imprelis Soil and Vegetation Sampling and Analysis Follow Up Study

On pages 2 and 3 of this report are summary tables capturing the results of the *2012 Imprelis Soil and Vegetation Sampling and Analysis Follow Up Study*. This study was conducted by the Office of Indiana State Chemist with financial support from the Environmental Protection Agency Region 5 Office. The purpose of this study was to determine if Imprelis could still be detected in soil and vegetation samples obtained in the spring of 2012. For purposes of this study eleven sites were selected where Imprelis (aminocyclopyrachlor) was applied and detected in soil and vegetation samples in 2011.

The 2012 follow up soil samples were taken to a depth of 4 inches whenever possible and were then split into approximately equal top and bottom portions. Both soil sample portions were analyzed for the presence of aminocyclopyrachlor (ACP). While one soil analysis result was not quantifiable, ACP was detected in every soil sample taken in 2012 (see table 1). For comparison purposes the 2011 soil residue results are provided in the farthest right hand column. It should be noted that soil samples obtained in 2011 as a function of were not split into top and bottom halves, but were instead collected and analyzed as single composite soil samples. It should also be noted that no soil sample was obtained from one site in 2011.

Vegetation samples were also obtained from six of the eleven 2012 soil sampling sites. In all but one instance the vegetation sample consisted of apparently dead twigs taken from Imprelis injured trees. One sample consisted of honey locust foliage that was exhibiting growth regulator type of injury symptoms. As with the soil samples, ACP was detected in all of the vegetation samples taken in 2012 (see table 2). For comparison purposes the 2011 vegetation residue results are provided in the farthest right hand column.

In conjunction with the vegetation sampling effort, the Purdue Department of Agronomy will be conducting a bioassay involving tomato plants and mulch made from woody parts of vegetation collected in this study. Those related bioassay results will be included as an addendum to this report once they are available.

2012 Imprelis Soil Sampling Follow Up Results Table 1

Case #	Sample Description*	ACP found in 2012	ACP found in 2011
2012-0545	Top 2 in. of soil composite	0.489 ppb	35.0 ppb
	Bottom 2 in. of soil composite	0.335 ppb	
2012-0546	Top 2 in. of soil composite	0.634 ppb	N/A
	Bottom 2 in. of soil composite	0.330 ppb	
2012-0547	Top 2 in. of soil composite	0.419 ppb	32.0 ppb
	Bottom 2 in. of soil composite	0.294 ppb	
2012-0548	Top 2 in. of soil composite	0.340 ppb	1.60 ppb
	Bottom 2 in. of soil composite	0.197 ppb	
2012-0549	Top 2 in. of soil composite	1.00 ppb	57.0 ppb
	Bottom 2 in. of soil composite	0.826 ppb	
2012-0550	Top 2 in. of soil composite	0.329 ppb	0.17 ppb
	Bottom 2 in. of soil composite	0.218 ppb	
2012-0551	Top 2 in. of soil composite	0.457 ppb	8.50 ppb
	Bottom 2 in. of soil composite	BQL	
2012-0552	Top 2 in. of soil composite	0.418 ppb	1.30 ppb
	Bottom 2 in. of soil composite	0.261 ppb	
2012-0553	1 to 2 in. soil composite	1.03 ppb	BDL
2012-0554	Top 2 in. of soil composite	2.62 ppb	69.0 ppb
	Bottom 2 in. of soil composite	1.66 ppb	
2012-0555	Top 2 in. of soil composite	0.496 ppb	3.20 ppb
	Bottom 2 in. of soil composite	0.350 ppb	

ACP = aminocyclopyrachlor BQL = below quantifiable limit BDL = below detection limit
ppb = parts per billion

* 2012 soil samples were not necessarily taken from exactly the same areas within a site as the 2011 soil samples

2012 Imprelis Vegetation Sampling Follow Up Results Table 2

Case #	Sample Description*	ACP found in 2012	ACP found in 2011
2012-0545	Honeylocust twigs	22.6 ppb	N/A
	Vegetation from honeylocust	4.7 ppb	32.0 ppb
2012-0546	Spruce twigs	7.1 ppb	83.0 ppb
2012-0547	Spruce twigs	5.4 ppb	25.00 ppb
2012-0552	Spruce twigs	8.8 ppb	276.0 ppb
2012-0553	Honeylocust twigs	29.3 ppb	42.0 ppb
2012-0555	Willow twigs	2.4 ppb	N/A
	Spruce twigs	15.4 ppb	63.0 ppb

ACP = aminocyclopyrachlor N/A = no like sample was obtained in 2011 sampling
ppb = parts per billion

* 2012 twig and vegetation samples were not necessarily taken from exactly the same affected tree or limb as the 2011 vegetation samples.