CASE SUMMARY

Case #2011/1310

Complainant: Battleground Golf Club
5505 Pretty Prairie Road
Battleground, IN 47920
765-497-9081

Applicator: Rich Shamo — Certified Applicator
Battleground Golf Club
5505 Pretty Prairie Road
Battleground, IN 47920
765-497-9081

1. On July 22, 2011, I, Agent Joe Becovitz of the Office of Indiana State Chemist (OISC), performed an investigation at Battleground Golf Club in response to a claim of injury/damage to non-target trees and shrubs possibly resulting from exposure to the herbicide Imprelis. I observed the following during my on-site investigation:
    a) Spruce and pine trees had new growth that was twisted and browned. Some of the spruce and pine trees had partially or totally defoliated beyond the new growth (see Figures 1 thru 6). It should be noted that according to the golf course, Imprelis was applied only to holes one through eleven. No injury to spruce and pine trees was observed on holes twelve through eighteen (see Figures 7 and 8).

2. I photographed the site documenting the symptoms I observed:


Figure 1-injured pine tree


Figure 2-injured pine tree close up

Figure 3-injured spruce tree

Figure 4-injured spruce tree close up

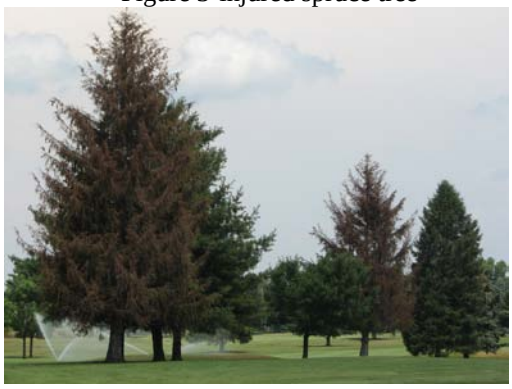

Figure 5-overall view of injured trees

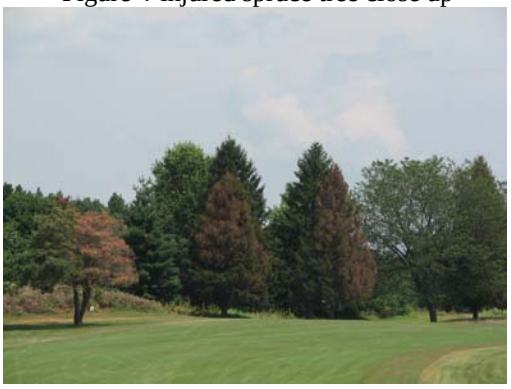

Figure 6-overall view of injured trees

Figure 7-trees on untreated portion of course

Figure 8-trees on untreated portion of course

3. I collected the following vegetation samples from visibly impacted non-target vegetation, as described in paragraph #1, for examination by the Plant & Pest Diagnostic Lab (PPDL) at Purdue:
    a) Spruce
    b) Pine

4. I collected the following environmental samples for chemical analysis by the OISC Residue Lab:
    a) Injured pine foliage
    b) Soil composite from # 5 rough
    c) Soil composite from # 15, 16, 17 and 18 rough.

5. The report from the PPDL for the samples submitted indicates, *"There was no evidence of significant mite or insect injury or disease on the samples submitted. The samples (white pine and spruce) exhibited symptoms that are typically found to be associated with injury that can be caused by a synthetic auxinic (growth regulator type) herbicide. Typical symptoms caused by these herbicides can include epinasty (twisting and curving) of the leaves or needles, shoot and shoot tip; dieback of distorted shoot tips; leaf cupping which can be upward or downward, and in extreme cases, new leaves can be irregular in size and shape (usually smaller than normal) and have abnormal leaf margins. If injury results in new shoot dieback in conifers there will be no regrowth this season."*

6. According to the report from the OISC Residue Lab, the following levels of aminocyclopyrachlor (active ingredient in Imprelis Herbicide) were found in the samples referenced in item #4:

a)	Injured pine foliage	363 PPB
b)	Soil composite from #5 rough	10 PPB
c)	Soil composite from #15, 16, 17 and 18 rough	BDL

PPB=Parts Per Billion BDL=Below Detection Limits

7. According to the application information collected from the applicator, Imprelis Herbicide (EPA Reg. No. 352-793) was applied on April 25 and 26, 2011, at the rate of 4. oz /acre using a boom type sprayer.

Joseph D. Becovitz Date: September 20, 2011
Pesticide Investigator

Disposition: No violation of the Indiana Pesticide Use and Application Law was documented against the pesticide applicator. Effective September 15, 2011, the Indiana registration for Imprelis Herbicide, EPA Reg. #352-793, was cancelled because it was determined by OISC that the product is "misbranded" (it bears label directions that are inadequate to prevent unreasonable adverse effects to non-target vegetation).

George N. Saxton Final Date: October 10, 2011
Compliance Officer