CASE SUMMARY

Case #2011/1289

Site: Hillsdale Grove
104th Street and Olio Road
McCordsville, IN 46055

Applicator: Roberto Tapia — Registered Technician
Business: Start To Finish, Inc. — Licensed Business
3375 S. CR500E
Whitestown, IN 46075
317-710-5802

1. On July 25, 2011, I, Agent Andy Roth of the Office of Indiana State Chemist (OISC), performed an investigation at the above listed housing addition in response to a claim of injury/damage to non-target trees and ornamentals possibly resulting from exposure to Imprelis herbicide. During my on-site investigation, I observed Norway spruces at the entrance which exhibited twisted tips and brown needles on new growth; a few were almost entirely brown and had dropped a majority of their needles (Figures 1 & 2). Redbud and viburnum exhibited cupped leaves (Figure 3) and, in a landscaped common area within the sub-division, inkberry and azalea exhibited necrotic, browned leaves (Figure 4).

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


Figure 1

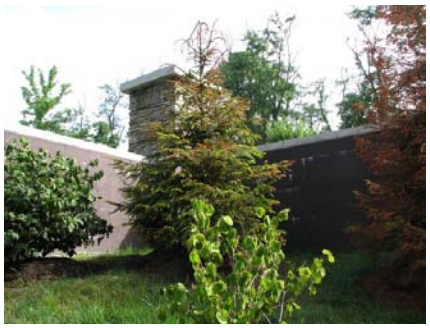
Figure 2


Figure 3

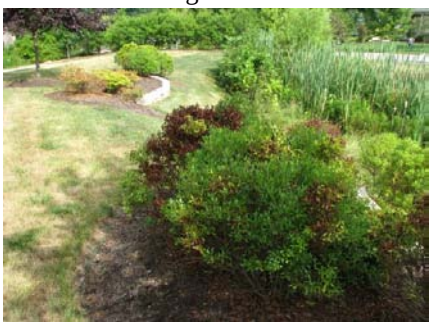
Figure 4

3. I collected plant samples from spruce, redbud, inkberry and azalea exhibiting symptoms and submitted them to the Plant & Pest Diagnostic Lab (PPDL) at Purdue for assessment.

4. The report from the PPDL for the samples submitted states, *"Spruce: Some minor damage to older needles from spruce spider mite was observed but is not contributing to the dieback and twisting of the new growth. No disease was present. Redbud: The black leaf spots are caused by the fungus Passalora sp. This is a common problem on redbud and causes no real harm to the tree. Dieback may be caused by Botryosphaeria, also a common fungal pathogen of redbud. Neither of these is contributing to the leaf curl, twisting and distortion of the leaves. The samples of spruce and redbud (and pictures of these plants and viburnum) submitted show symptoms that are associated with injury caused by synthetic auxin (growth regulator type) herbicides. Typical symptoms caused by these herbicides can include epinasty (twisting and curving) of the leaves or needles, shoot and shoot tip; 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. When injury results in new shoot dieback in conifers there will be no regrowth this season, and with certain species, such as Norway spruce, the entire tree can die. Inkberry: This specimen showed yellowing, dead leaves and dieback. There was no evidence of disease on the foliage, however Inkberry often has root rot problems which could not be ruled out with a foliage-only sample. I can't determine from the symptoms whether herbicide injury may be contributing to the decline of these plants. There was no evidence of twisting or distorted growth. Azalea: There was no evidence of disease on the sample. Lace bug injury was present but is not heavy enough to cause the dieback and yellowing present. Azalea often has root rot problems that could not be ruled out with a foliage-only sample. I can't determine from the symptoms whether herbicide injury may be contributing to the decline of these plants. There was no evidence of twisting or distorted growth.*

5. According to application information collected from Jeff Yeary of Start To Finish, Roberto Tapia applied Imprelis Herbicide (EPA Reg. No. 352-793) to the property on May 9, 2011, at the rate of 4.0 oz /acre using ride-on application equipment.

Andrew R. Roth — Date: October 17, 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: November 11, 2011
Compliance Officer