IMPRELIS: DOES IT HAVE APPLICATION IN FINE TURF?

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Outline

• Compound and registration
• Used widely by commercial operators
• Observed damage, trees and ornamentals
• DuPont voluntarily suspended Imprelis sales
• Reparations
• Replanting trees
Imprelis (aminocyclopyrachlor)

- Discovered by DuPont Crop Protection
- Pyrimidine carboxylic acid
- Synthetic auxin

DPX-KJM44 (methyl ester)

DPX-MAT28 (acid)
Imprelis

• Registered and marketed by DuPont Professional products, late-2010
• Widely used by professional lawn care operators, late-2010 and early-2011
• During spring and early summer 2011 (late-May), off-target injury reported in areas treated with Imprelis
• Most injury observed on conifer species
Imprelis – physicochemical properties

<table>
<thead>
<tr>
<th></th>
<th>pKa</th>
<th>Ks (mg/L)</th>
<th>Koc (mL/g)</th>
<th>T1/2 (D)</th>
<th>VP (Pa)</th>
<th>Application Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminocyclopyrachlor</td>
<td>4.65</td>
<td>4200</td>
<td>28</td>
<td>40-130</td>
<td>6.92x10^-6</td>
<td>0.07 lbs ae/A</td>
</tr>
<tr>
<td>2,4-D</td>
<td>2.8</td>
<td>900</td>
<td>20</td>
<td>10</td>
<td>1.9x10^-5</td>
<td>2 lbs ae/A</td>
</tr>
<tr>
<td>Clopyralid</td>
<td>2.3</td>
<td>1000</td>
<td>6-60</td>
<td>40</td>
<td>1.36x10^-3</td>
<td>0.5 lbs ae/A</td>
</tr>
<tr>
<td>Dicamba</td>
<td>1.87</td>
<td>4500</td>
<td>2</td>
<td>50</td>
<td>4.5x10^-3</td>
<td>1 lbs ae/A</td>
</tr>
<tr>
<td>Triclopyr</td>
<td>2.68</td>
<td>430</td>
<td>20</td>
<td>30</td>
<td>1.6x10^-4</td>
<td>1 lbs ae/A</td>
</tr>
</tbody>
</table>
Imprelis – fate indicator?

\[ \text{No Problems} \quad \text{Potential Problems} \]

\[ \text{Potential Problems} \quad \text{Problems} \]

\[ K_{oc} \]

\[ T_{1/2} \]

- short
- long
- low
- high
Imprelis

- Species sensitivity
  - Mainly conifer species affected
    - Lead to geographical differences/problem areas
  - Some ornamental damage
Fir spp.
Fir spp.
White pine
White pine
CAPITAL TREES PROGRAM
of
WAKE COUNTY, NC
recognizes

Picea abies
Botanical Name

Norway Spruce
Common Name

18-2008 at 3729 Eakley Court
in the category Meritorious

owned by

Joann E. Lail Raleigh

Chair, Capital Trees Program

Chair, Awards Jury

2008-07
Norway spruce
Norway spruce
Deodar Cedar
Deodar Cedar
Locust spp.
Arborvitae
Forsythia
What Does This Mean?

• New herbicides – highly active molecules. Renewed emphasis on off-target plants?
• Changes EPA mindset? Less lbs on ground = more active herbicides
• Has it moved DuPont out of T/O market? How about other companies?
• How much does it change development of T/O products by manufacturers? You cannot test everything.
Imprelis – Does it Have a Place in Fine Turf?

• I think it does, but in a very limited market. Tall fescue and some other cool-season grasses. In mid-Atlantic, etc with less conifers.

• Is it worth it? We are not qualified to answer this question.
Questions?