SUBSTANTIAL DRIFT: A LEGAL PERSPECTIVE

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Presented to:
Cal IPC
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Nothing in this presentation is meant to create an attorney-client relationship, is not intended to convey or constitute legal advice, and is not a substitute for obtaining legal advice from a qualified attorney.
ABC FARMING,

Plaintiff,

v.

XYZ CROP DUSTER, DOES 1 through 100, Inclusive,

Defendants.

Case No.

COMPLAINT FOR:

1. NEGLIGENCE
2. TRESPASS
3. NUISANCE
4. STRICT LIABILITY FOR ULTRAHAZARDOUS ACTIVITY
The Usual Suspects

- Grower
- Landowner
- Applicator
- PCA
- Chemical Supplier
- Chemical Manufacturer
The use of any pesticide by any person shall be in such a manner as to prevent substantial drift to nontarget areas.
Types of Off-Target Movement

* Direct Drift  * Inversion  * Wind Erosion
Spray pattern analysis

The effect of propwash on spray recovery.

Wing tip vortices affecting spray pattern.

Effective swath width
Particulates become trapped in the inversion layer and are then carried away.
Temperature Inversion
Wind Erosion

- Fine particles in suspension
- Coarser particles in motion (surface creep)
- Bouncing soil particles near surface

Image of a dusty field illustrating wind erosion.
Concerns With Crop Loss Litigation

- High damage claims
  - $1.5 million for 120 acres of tomatoes
  - $3 million for 150 acres of almonds
- Low insurance coverage
- Non-reported applications
Joint Liability

- In California, all Defendants are jointly liable for all of Plaintiff’s economic damages.

- Economic damage is any type of monetary loss including crop loss.

- Example:
  - Grower sues PCA, applicator and neighboring farmer/landowner for $1,500,000.
  - Applicator & PCA only have $100,000 policies, each.
  - If jury finds neighboring farmer even 1% at fault, Plaintiff can collect $1.3 million from farmer.
Suggestions for Product Use Recommendations

- Identify/map all sensitive crops
- Do not rely on software for application rates
  - Ex: Roundup - 32 ounces by ground, 22 ounces by air
- Ensure appropriate warnings
- Identify buffer zones
- Reduce recommended treated area for buffer zone
- Consider preparing separate PURs for each field
Identify Ongoing Work in Area
Identify Bees in the Vicinity
Organic Crops are Increasing Concern

- Governed by both Federal and State law
  - No prohibited substances (pesticides) can be used on the property in the 36 months prior to harvest.
  - 7 CFR 205.504(b)(5)(iii)
Confusing Map & Organic Crops
INVESTIGATIONS

* Retain Consultants—Herbicide/PCA/economist
* Identify neighboring applications
* Collect Samples – tissue and soil
* Take Photographs including Aerial
* Analyze Product Use Recommendation/Maps
* Analyze Pesticide Labels
* Obtain Product Use Reports for nearby crops
* Weather – temperature, wind, humidity
* Historical Yield Data & Imaging
Early Sampling Needed for Defense
Sampling in Alleged Drift Case
(Assuming a NW wind)

Application Site  Damaged Field
Sampling in Alleged Contaminated Application Case
(Assuming wind from NW)
Identify Neighboring Applications
Identify Neighboring Applications
Injured Crops
Injured Crops
For example, glyphosate on tomatoes:

- **Plant:** tomato
- **MoA:** Inhibition of EPSP synthase
- **Chemistry:** Glycine
- **Herbicide:** glyphosate
- **Symptoms:** chlorosis, interveinal chlorosis, leaf crinkling, leaf distortion, leaf narrowing, leaf strapping, necrotic spots, stunting
Searchable by Herbicide and Plant Type

- For example, dicamba on almonds:

<table>
<thead>
<tr>
<th>Plant: almond</th>
<th>MoA: Synthetic auxins</th>
<th>Chemistry: Benzoic acid</th>
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<tbody>
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<td>Herbicide: dicamba</td>
<td>Symptoms: epinasty, growth distortion, leaf cupping, leaf curling, leaf distortion, leaf malformation, malformation, twisting</td>
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Injured Crops
Aerial Photos of Overspray
Aerial Photos of Alleged Drift
CASE STUDY:

- Late February
- Target: Weedy fallow fields
- Roundup and Goal by airplane
- Almonds in bloom
CASE STUDY:

- Target: Weedy fallow fields
- Roundup & Goal mid-Feb
- Symptoms detected 0.5 mile from target field
- Symptom and residue gradient
- Economic loss to four almond orchards
Watch out for big jobs:

- > 1 mile
- Fallow Rice

Target Fields:
- 400+ acres
- Air application in late April
- Roundup

Damaged Peaches, Mandarins, Kiwifruit: 200 acres
Exposure Not Possible--
Plaintiff testified he was adjacent to the lights in the tomatoes.
Imaging of Damage Compared to GPS
Identifying Plant Vigor Through Infrared
Salinity Concerns
Soil Nutrient Concerns
Claims Mushroom Out of Control with Time
County production declined by more than 50% since 2008.
Price claimed by Plaintiff is much higher than publicly reported UCCE and County average prices

Comparison of Average Prices to Claimed Price per Carton

- Plaintiff’s Price Claimed
- County Average
- California Average
Plaintiff’s alleged yields exceed UCCE/County averages and ignore relatively low yield received in 2013.
Leading Causes of Liability Claims

- Weather & Wind (Environment)
  - Excessive Wind/Direction/Inversion
  - Temperature/Humidity
  - Terrain
- Equipment and Technology
  - Boom/Nozzle Type
  - Tank Contamination
  - Pressure
  - Flow Control
- Guidance Systems

- Application
  - Delivery
  - Label Violations
    - Rate of Release/Speed
    - Formulation and Mix
    - Inappropriate application
- Buffer Zones
- Map and Boundary Issues
  - Illegible/Confusing Maps
All May Not be Lost

Mitigating Damages