

# CPDA ANNUAL MEETING 2010

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# BACKGROUND

- Program initiated in 2001 by EPA to reduce overall risk
- In 2006 EPA adopted the DRT Technology Program to encourage the adoption of technology designed to reduce drift which put accelerated activity in this area

- DRT Verification Methods were proposed
  - Ground – Low-speed wind tunnels
  - Aerial – High-speed wind tunnels
  - All type – Field studies including a comparison to a reference system
- DRT's could be spray nozzles, sprayer modifications, assisted delivery, spray property modifiers (adjuvants) and/or landscape modifications.

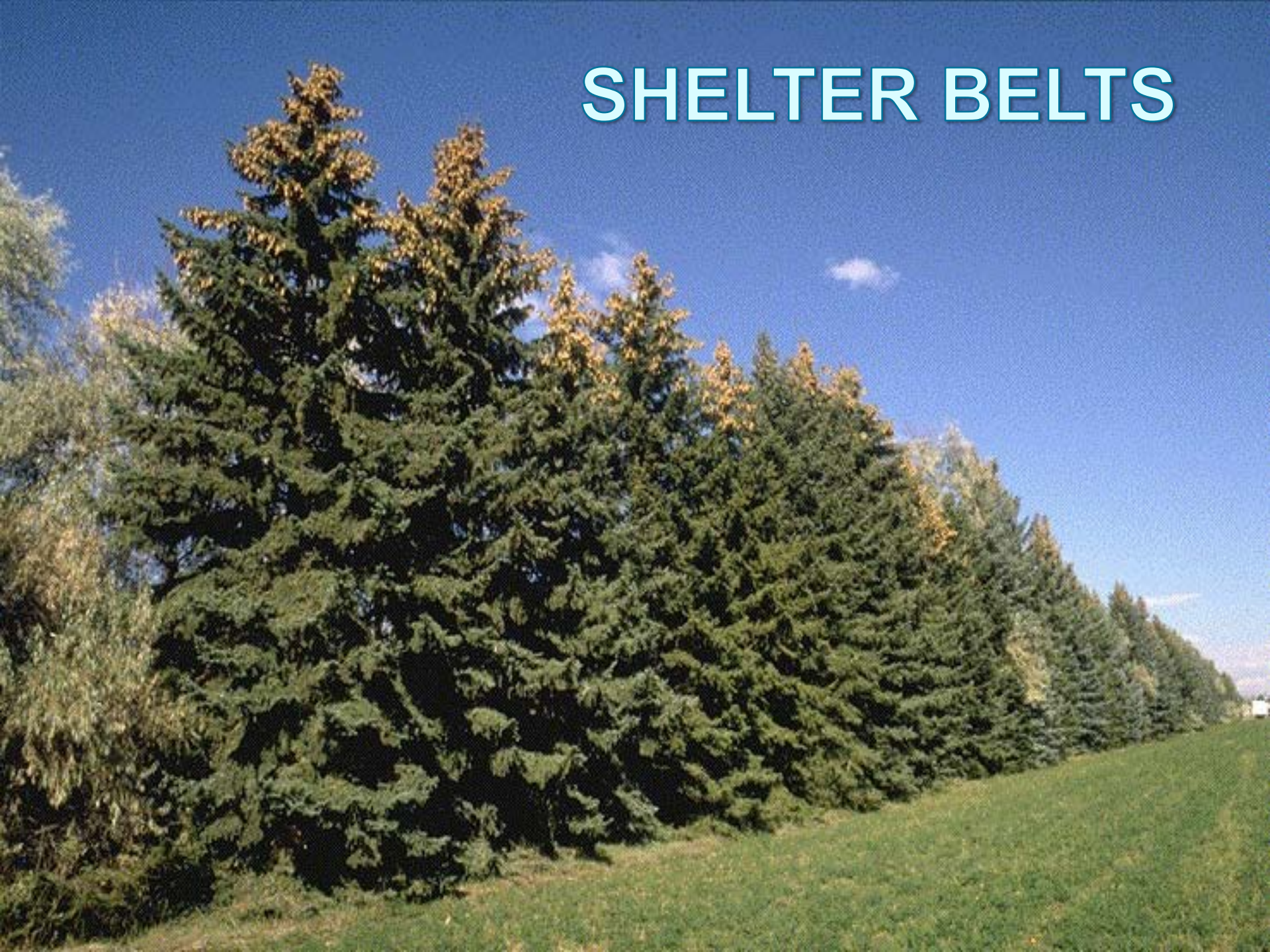
# GRASS BUFFER STRIPS



# HEDGEROWS



# SHELTER BELTS





- Wind Tunnel Testing

- Need for a reference system to compare candidates to
- Use of the ASABE S-572.1 spray nozzles to determine spray quality

# Wind Tunnel Facilities

- Wind tunnels:
- 1 ft X 1 ft, 4 ft X 4ft, and 6 ft X 6 ft with airspeed ranges of 0-160 mph;



- Scrubber system to spray active ingredient
- New high speed tunnel (0-220 mph) going online in 6 weeks



- Droplet Sizing Systems

- Use of a laser diffraction instrument to measure droplet size
- Drop size data can be plugged into models to help EPA determine drift and degree of exposure potentials

# Droplet Sizing Systems



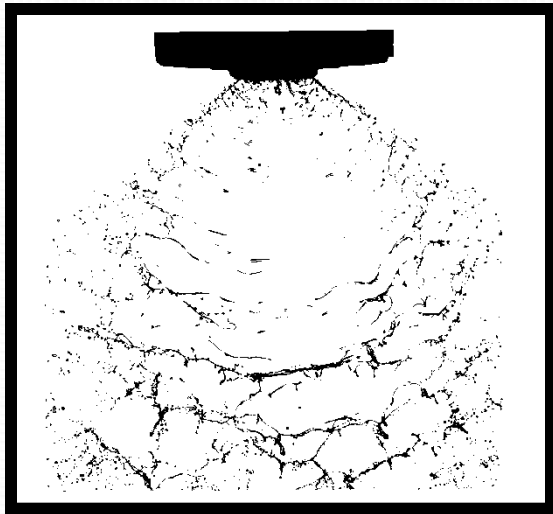
Sympatec (Laser Diffraction)

LA Vision  
(Imaging)

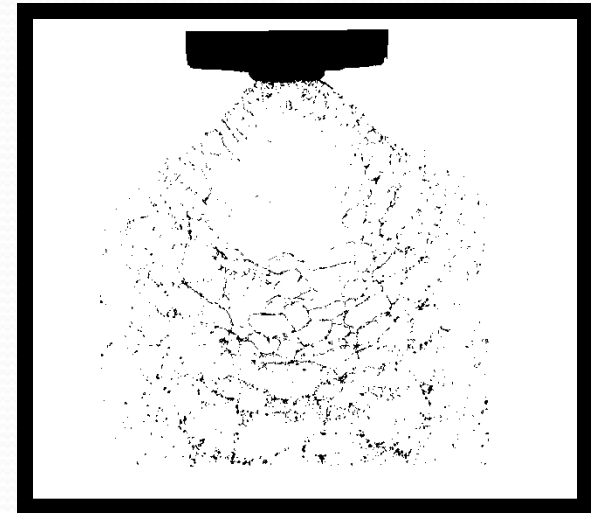


# Effects of Drift Retardant on Atomization of Flat Fan Nozzle

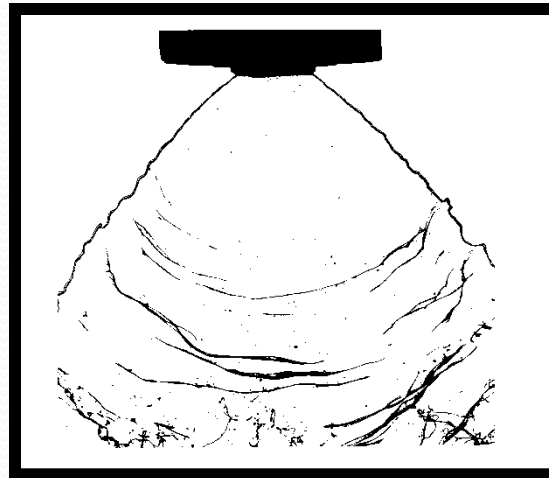
Roundup



R-Up+ DRT A




R-Up+DRT B



# CURRENT ACTIVITIES

- There is an intent by EPA to initiate some sort of an official DRT program by late 2010 to early 2011
- The final validation of DRT testing protocols for field trials, high and low speed wind tunnels by USDA – ARS – Aerial Application Unit at College Station, TX.

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- Continued dialogue with EPA by CPDA – DRT Working Group, Crop Life, registrants and distributor representatives
  - The proposed WK 27419 Draft Test Method for Characterization of Performance of Spray Drift Reduction Adjuvant for Ground Application by ASTM E35.22 Subcommittee

- The round robin by E35.22 to be completed this fall for validation of the WK 27419 Draft Test Method for ground application
- Initial work has started on an Aerial Draft Test Method by members of the E35.22 Subcommittee
- The current validation of protocols for ground, aerial, and field studies will use a TeeJet Flat Fan 11003 nozzle at 40 psi as the reference spray system (fine to medium boundary according to S 572.1)

# AERIAL FIELD VALIDATION



# GROUND FIELD VALIDATION



# Measuring Spray Drift

- Application testing using fluorescent tracer dyes for deposition analysis.
- Downwind Deposition
  - Fallout collectors
  - Plant samples
- Airborne Portion
  - Passive samplers
    - Monofilament line, straws, string, mesh
  - Active Samplers
    - Rotary impactors, volumetric samplers

# Measurement Devices

Fallout Collectors



Plant Samples



Vertical Airborne Collectors



Active Airborne Collectors



# SETTING UP COLLECTORS



# SPRAY CLOUD COLLECTORS





# COLLECTING SAMPLES



# POSSIBILITIES

- All labels will contain spray quality and buffer zone language in the future
- Increased pressure to reduce off-target drift by EPA and state regulatory agencies
- DRT ratings for equipment (sprayers, nozzles, etc) and adjuvants to allow for reduced buffer zone applications


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- One possibility is to allow reduction of the buffer zone based on the DRT rating as they do in Europe
  - Another possibility would be for the registrant to get a label with a minimum DRT rating plus a buffer zone
  - Possibly every product will have a minimum buffer zone even though you are using certified DRTs
  - EPA may recognize only CPDA certified adjuvants for DRT ratings

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- The combined value of DRT ratings for equipment and adjuvants may have a maximum reduction of buffer zones
  - Probably will not be able to combine DRT ratings for maximum reduction of buffer zones

- EPA currently models with a very fine spray quality which generates, for example, 45% of the spray in driftable fines (worse case scenario)
- Under a DRT program / spray quality label requirements, EPA would use a medium spray quality for risk management calculations which might only generate 10% fines

# INDUSTRY CONCERNS

- The cost of conducting the required tests for DRT certification
- The ability to recoup the investment
- The lack of facilities to conduct the DRT testing
- The reduction of crop production area

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- The potential for insect, weed and disease infirmaries
  - The potential loss of efficacy for pesticides as spray quality is enforced
  - Implementation Concerns
    - The need for a uniform enforcement
    - The development of training and educational materials for the educational process

**THANK YOU**