Preventing Herbicide Drift

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What is pesticide drift?

The movement of the pesticide away from the target area.

Two types

- Physical drift
- Vapor drift

Spray drift is undesirable!

- Inefficient use of equipment and time
- Under-application/ineffective control
- Litigation concerns
- Unintentional contamination of foodstuffs
- Air/water pollution
- Livestock and human health/safety

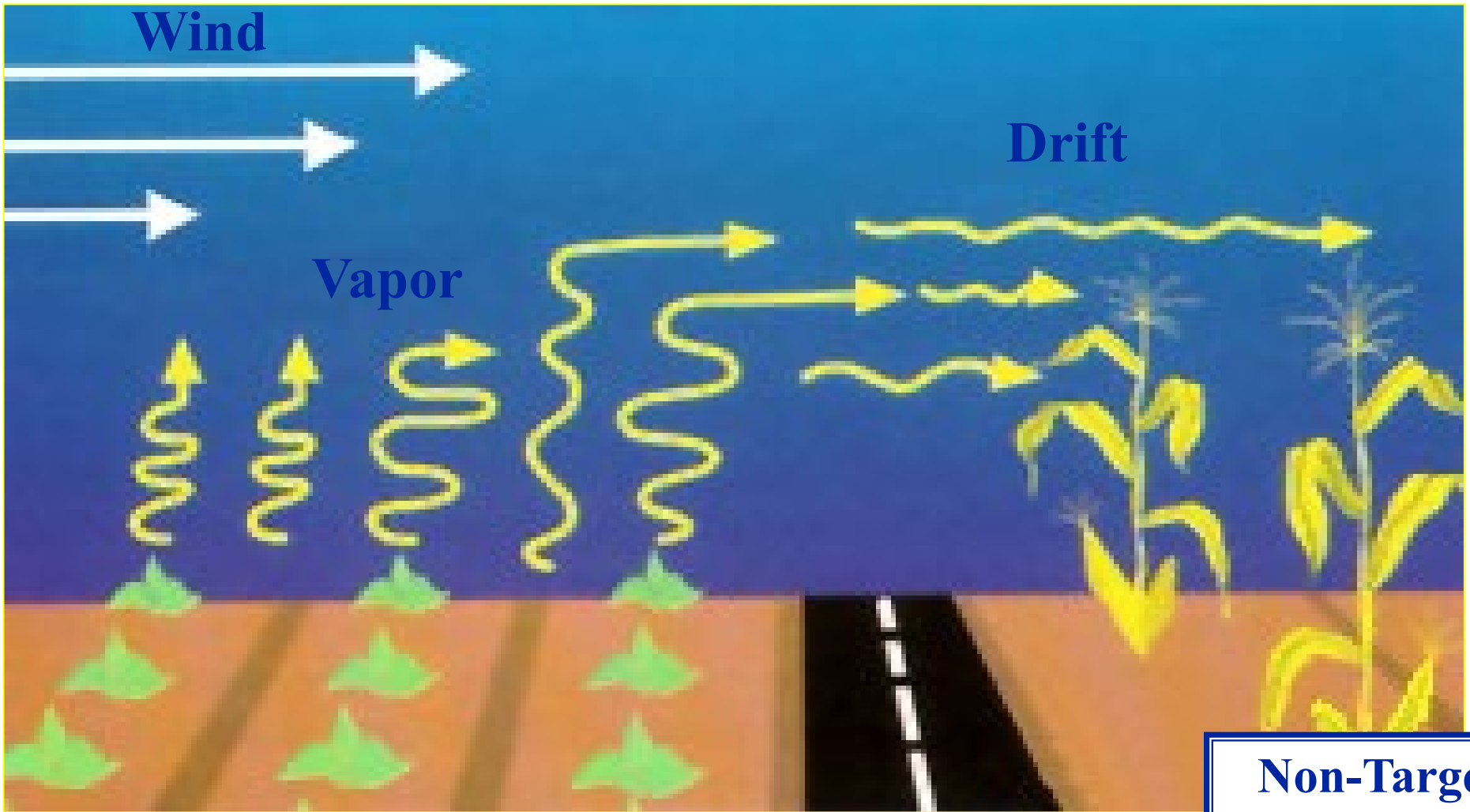
Vapor Drift

The volatilization or evaporation of a pesticide (as a gas) from the soil or crop surface that occurs after application.

Factors that influence vapor drift include:

- Vapor pressure/volatility of herbicide
- Temperature
- Wind speed

Vapor drift can occur days after the application



Physical Drift

Movement of pesticide away from target during application

Contributing Factors

- Weather
- Droplet size
- Boom height

Wind Tunnel Exercise

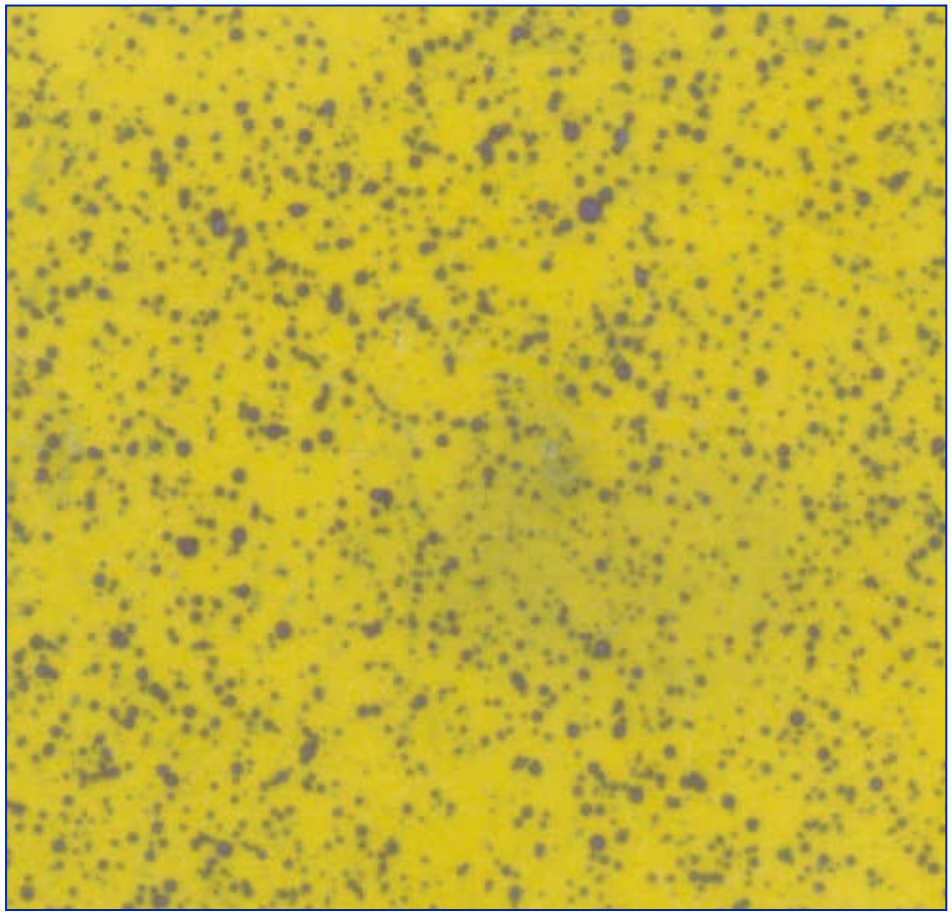
Variable	1ft	2ft	3ft	4ft	5ft	6ft	7ft	8ft	9ft	10ft	11ft	12ft	13ft	14ft	15ft	16ft
0 mph 30 psi	50	20	4	0	0	0	0	0	0	0	0	0	0	0	0	0
5 mph 30 psi																
10 mph 30 psi																
10 mph 60 psi																

Physical Drift

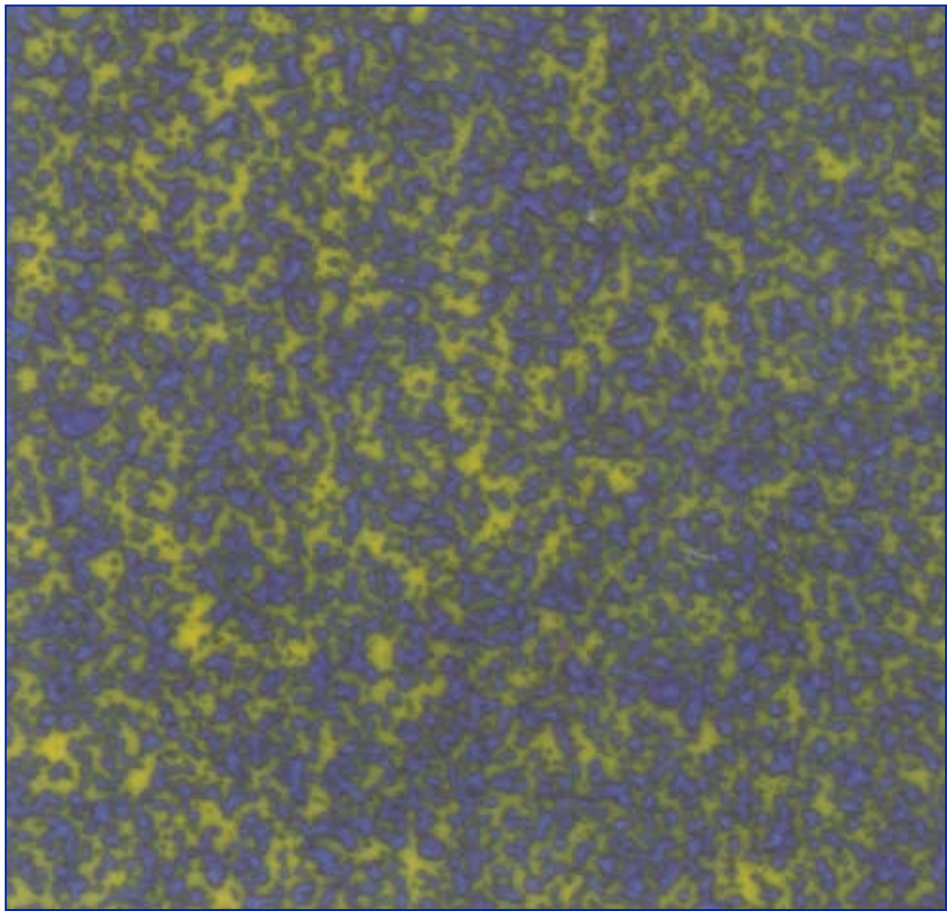
Factors to Consider

- Weather conditions (Wind, Temp, RH)
- Spray pressure
- Nozzle orifice size
- Nozzle type
- Spray volume
- Boom height

Spray Drift Pattern 2 Feet Away



2 MPH



4 MPH

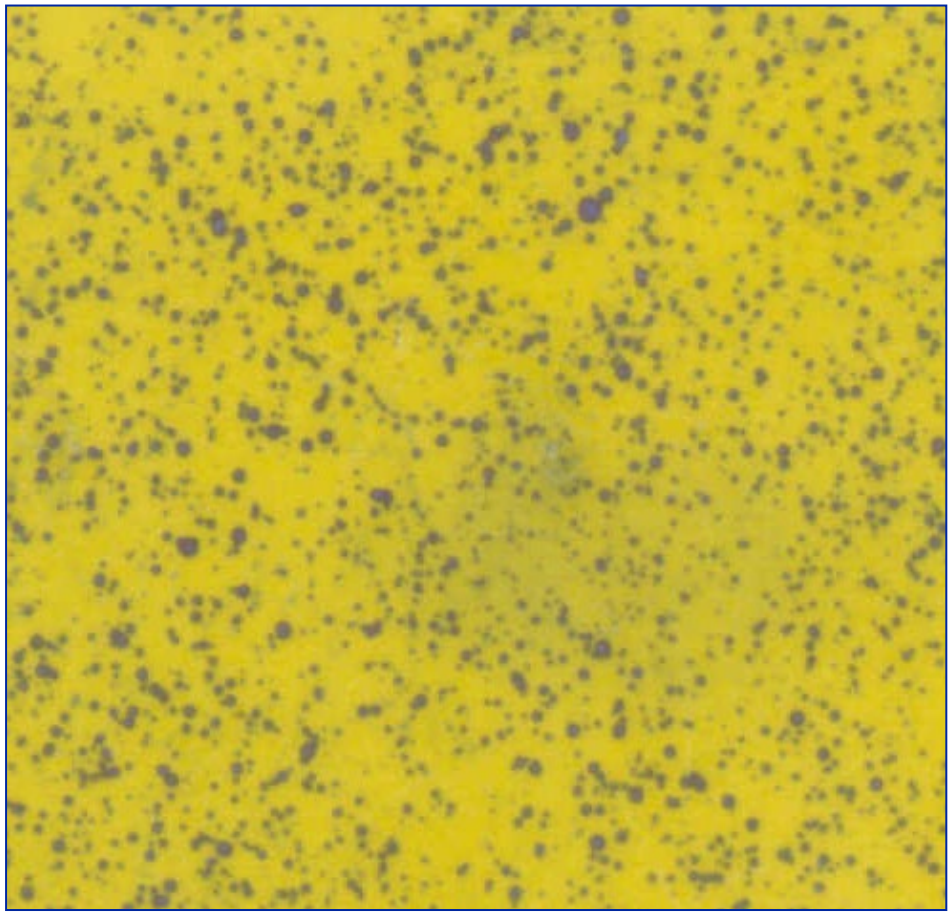
Video

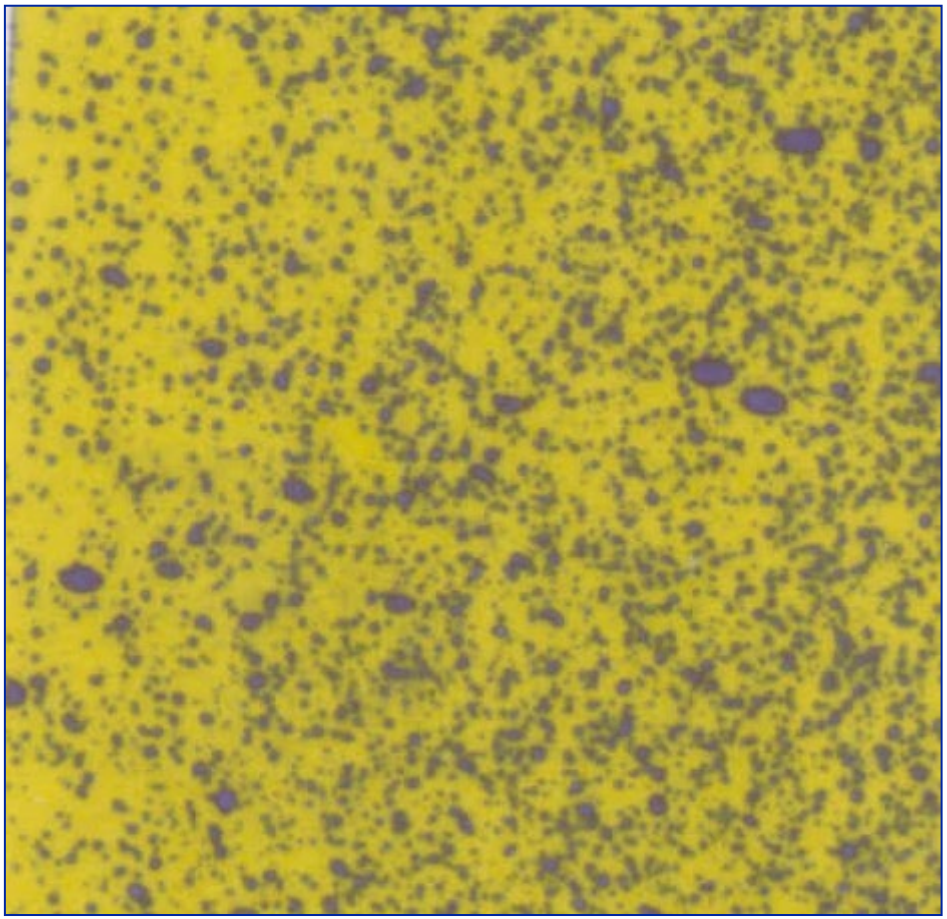
Relationship of Particle Size to Drift

Drop Diameter (microns)	Particle Type	Drift Distance
400	Course	8.5
150	Medium	22.0
100	Fine	48.0

Based upon 10’ fall in 3 MPH winds

Spray Drift Pattern 2 Feet Away



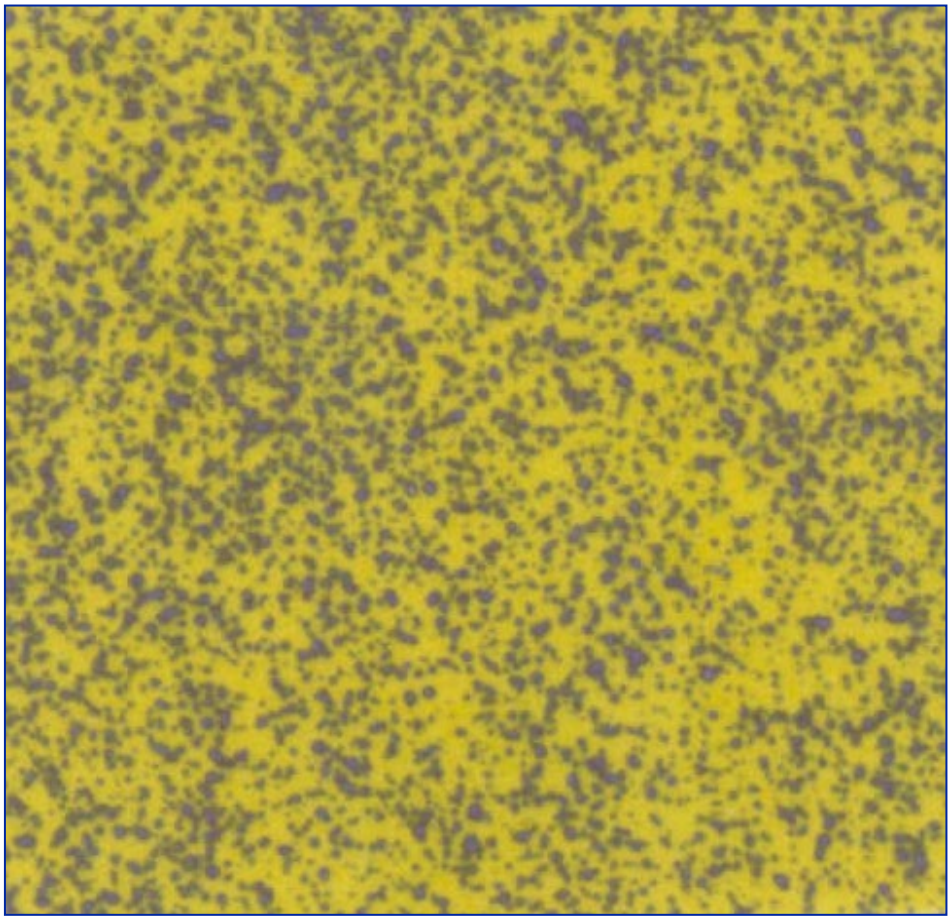


40 PSI

80 PSI

Video

Spray Drift Pattern 2 Feet Away



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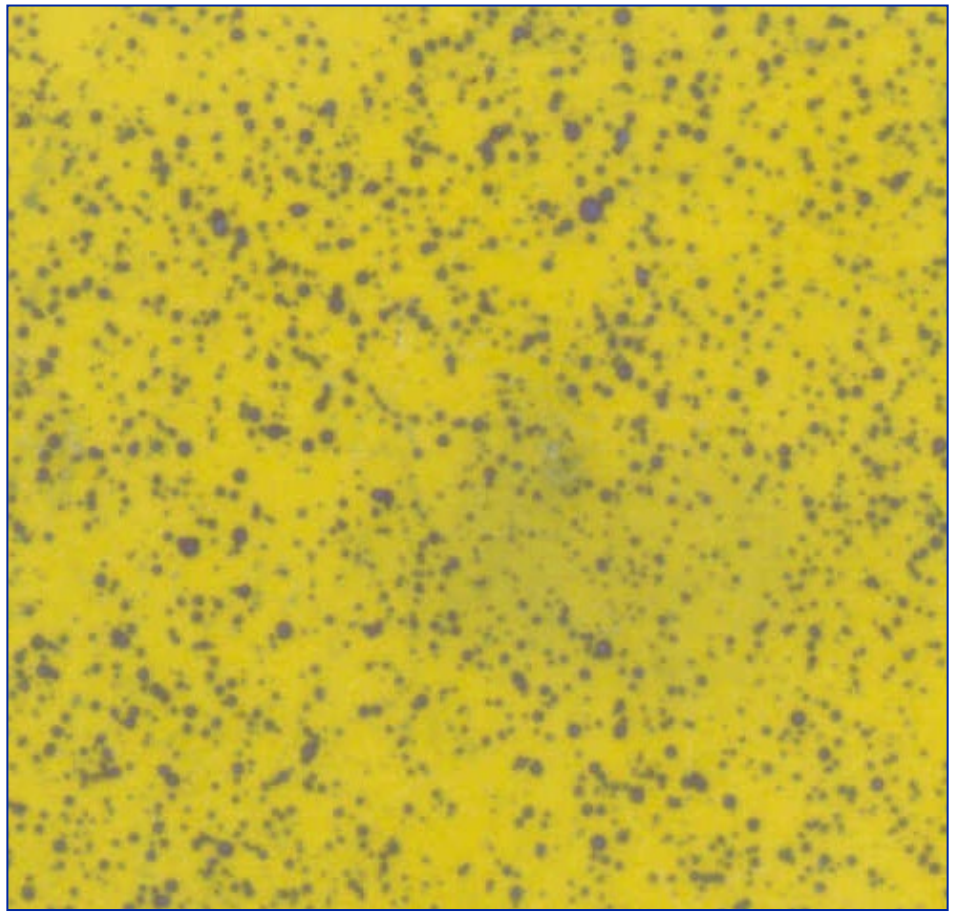

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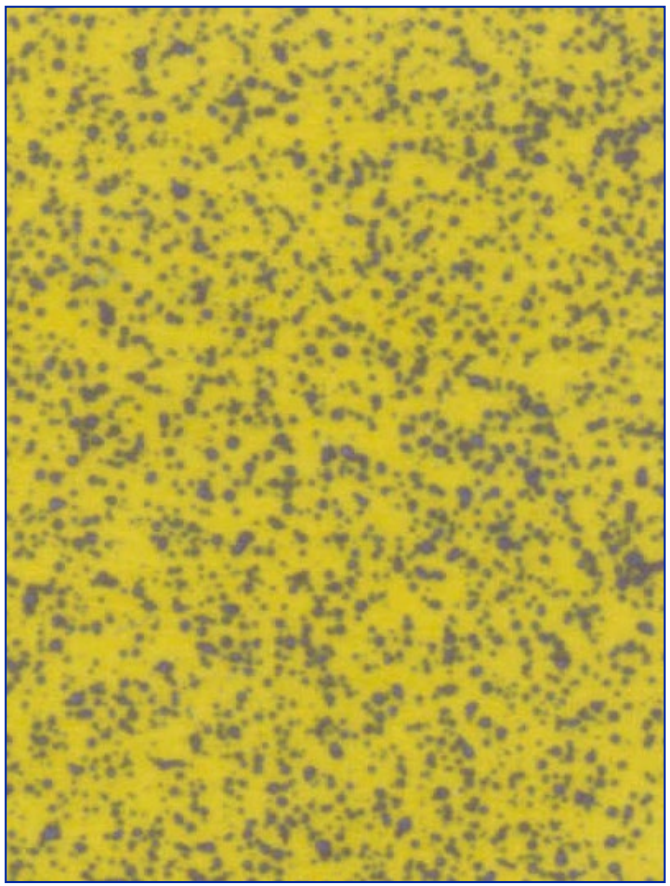
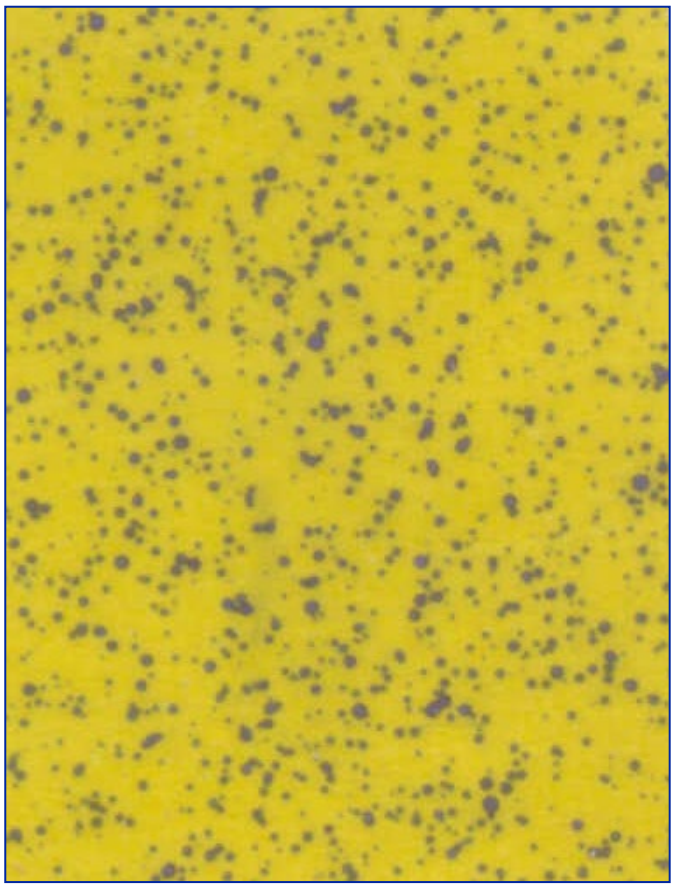
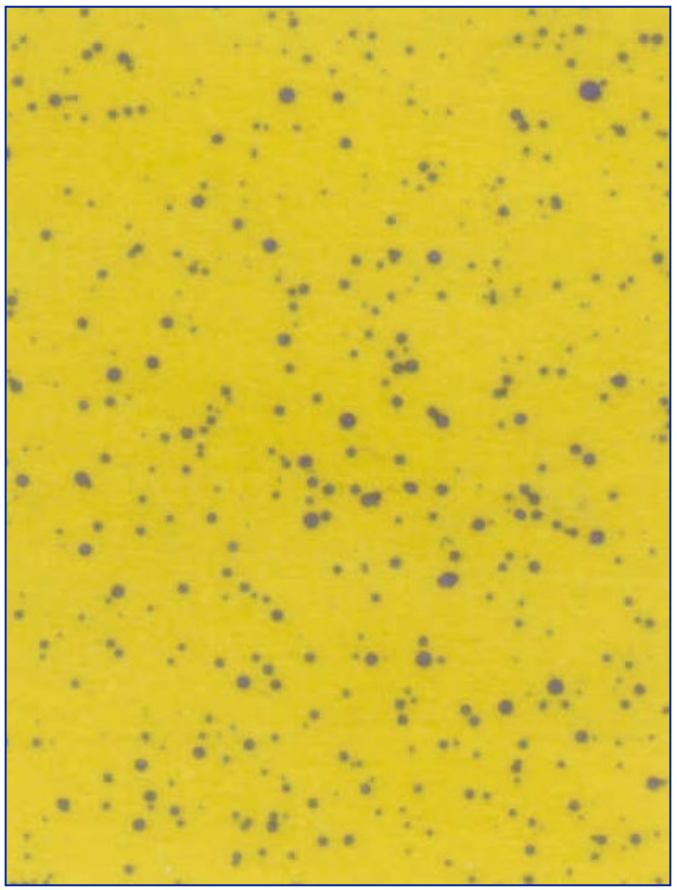
Spray Drift Pattern 2 Feet Away







Flat Fan **Turbo Jet** **Air Induction**

Video

Top 10 Tips For Reducing Pesticide Drift

- Nozzle selection
- Reduce pressure
- Lower boom height
- Increase nozzle size
- Avoid spraying when winds exceed 10 mph
- Lookout for inversions
- Use additives
- Calibrate sprayer
- Keep records
- Use common sense

Conclusions

- Herbicides are important tools for managing weeds
- Great care must be taken to prevent unintended injury to non-target plants
- Wise stewardship will allow future uses

Conclusions –

Questions?