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- AOPA, EAA, IFR, NAAA, AAAA, MOAAA, CO AAA, Can AAA
- Comm AR, TN, KY
- AAHOF, CFI & FAAST Counselor

WRK of Arkansas

Country Air Estates

1AR9

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Montana 11/06

Montana 11/07

We see only what we are familiar with!

"Drop to the Crop"

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Is application platform an issue?


N2065B


N997JP


ZK-SJA

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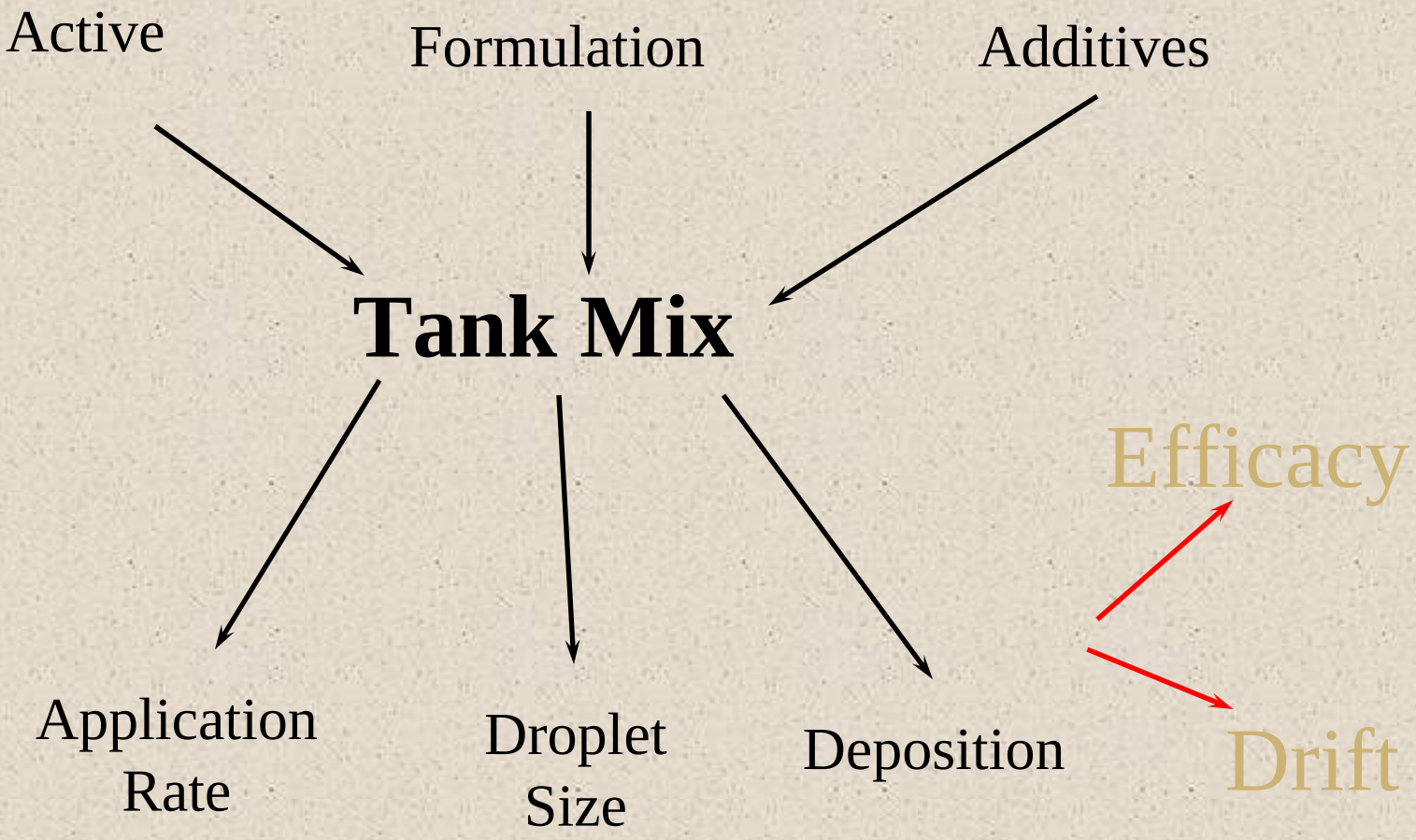
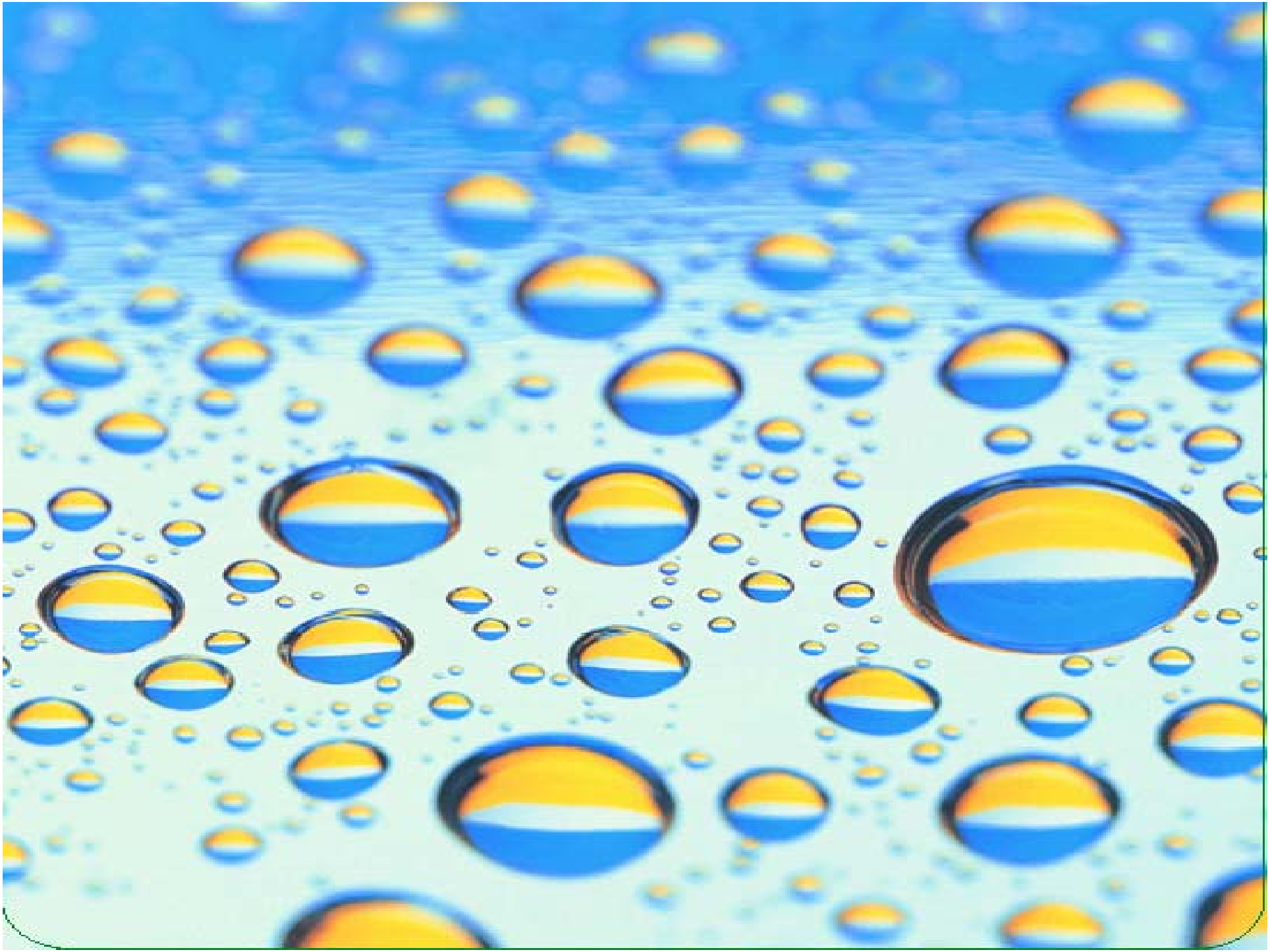
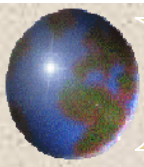
Material/Chemistry

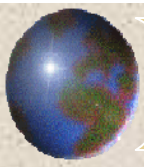






Size

- 290/250 = 1.16
- 290 micron droplet is 16% larger than 250
- This may not appear to be a big change, but???

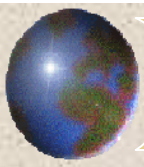


Droplet Data

- 250 v. 290 micron droplet
- Change in size?
- Change in Volume or Weight?

Volume or Weight

- Remember that this is a cube root relationship.
- If it was twice as big we would multiply
- 2 * 2 * 2 = 8 times heavier
- For 290/250 = 1.16
- 1.16 * 1.16 * 1.16 = 1.56
- Implies that a 290 micron droplet is 56% heavier than a 250!



Droplet size relationships

What is the relationship?

Cube of diameter differences

1.5 x 1.5 x 1.5 = 3.375

2 x 2 x 2 = 8

3 x 3 x 3 = 27

4 x 4 x 4 = 64

etc.

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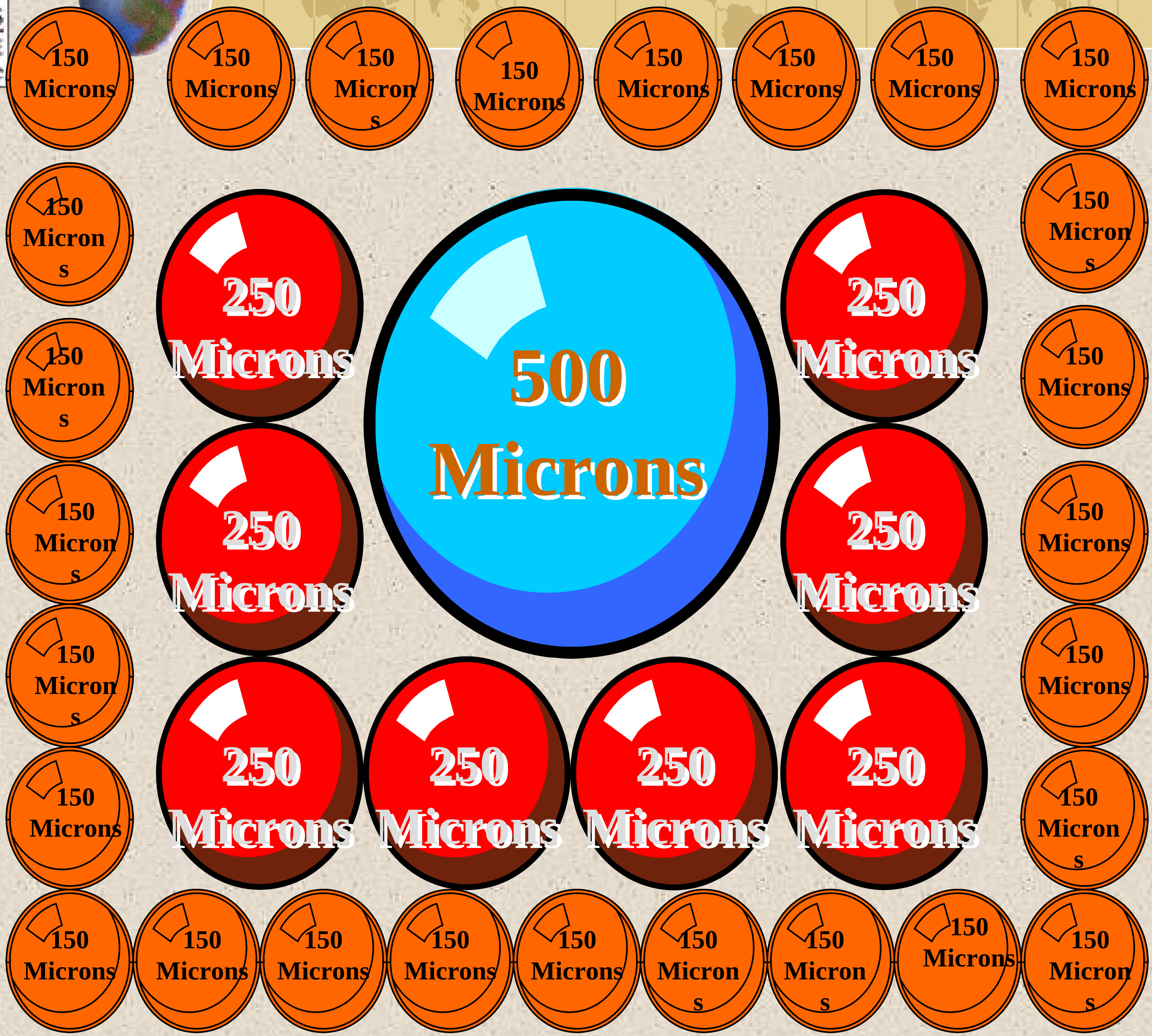

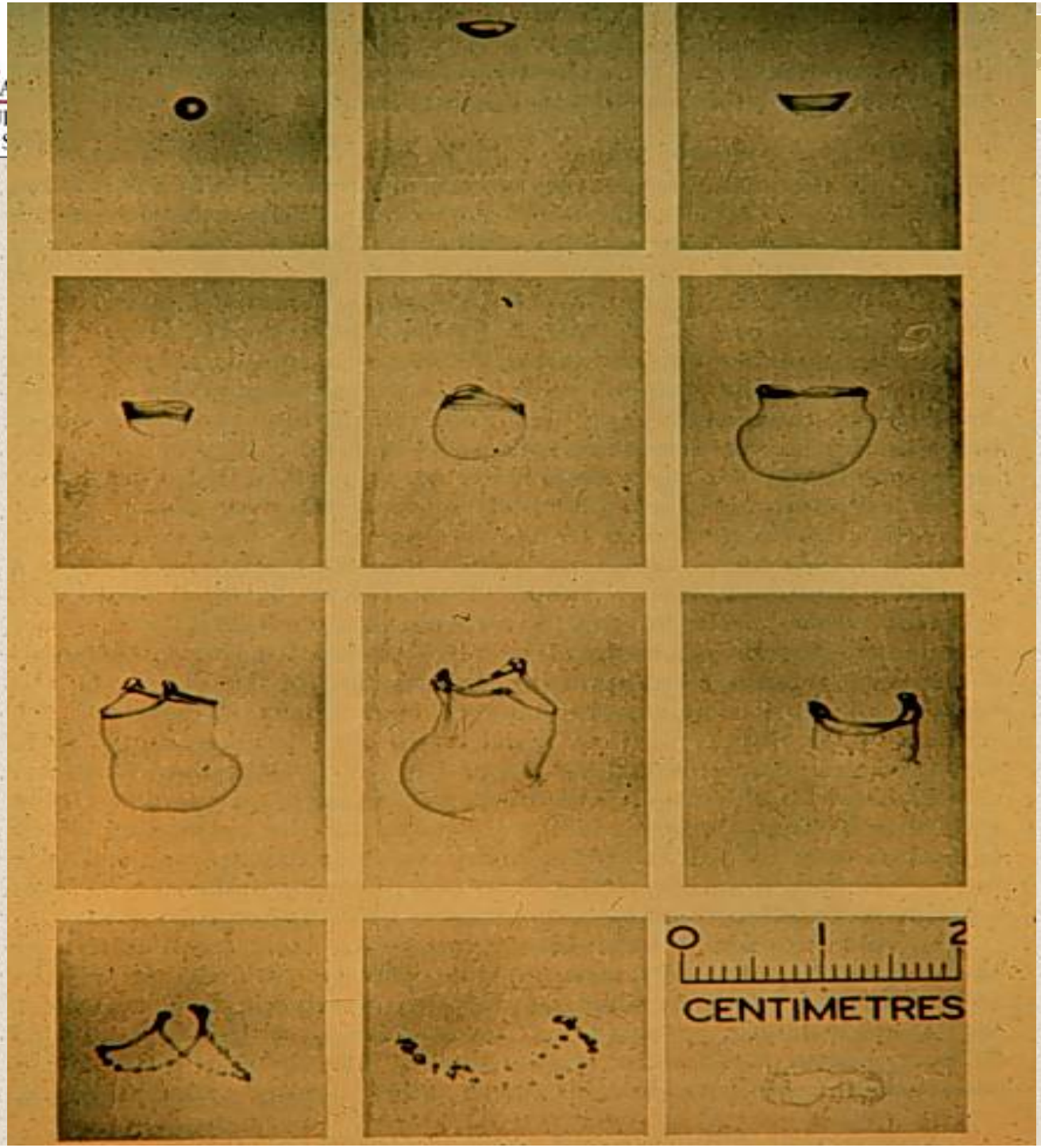
0
1
2
CENTIMETRES

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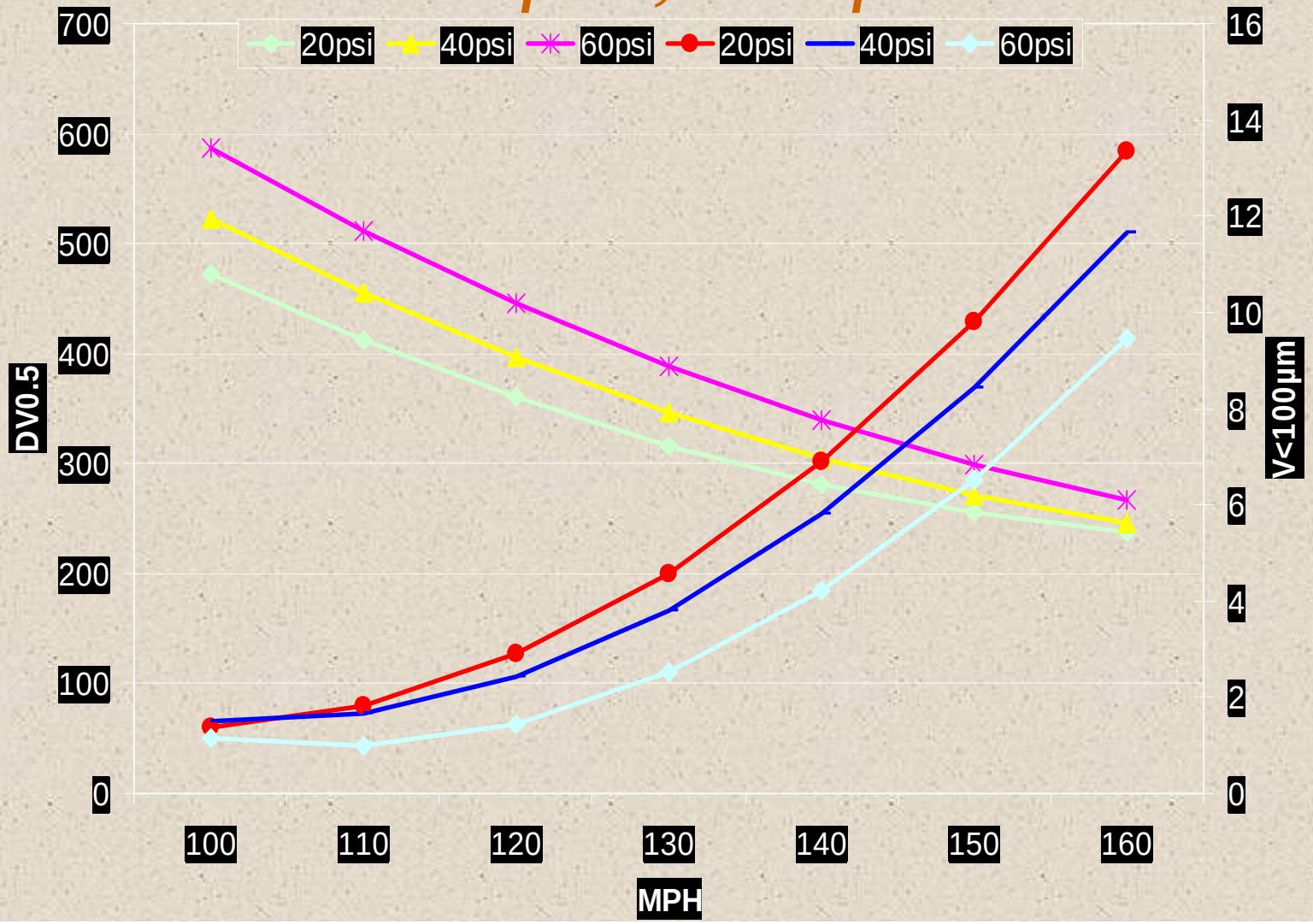
0.125 orifice,30^0 deflector

0.125 orifice,5⁰ deflector



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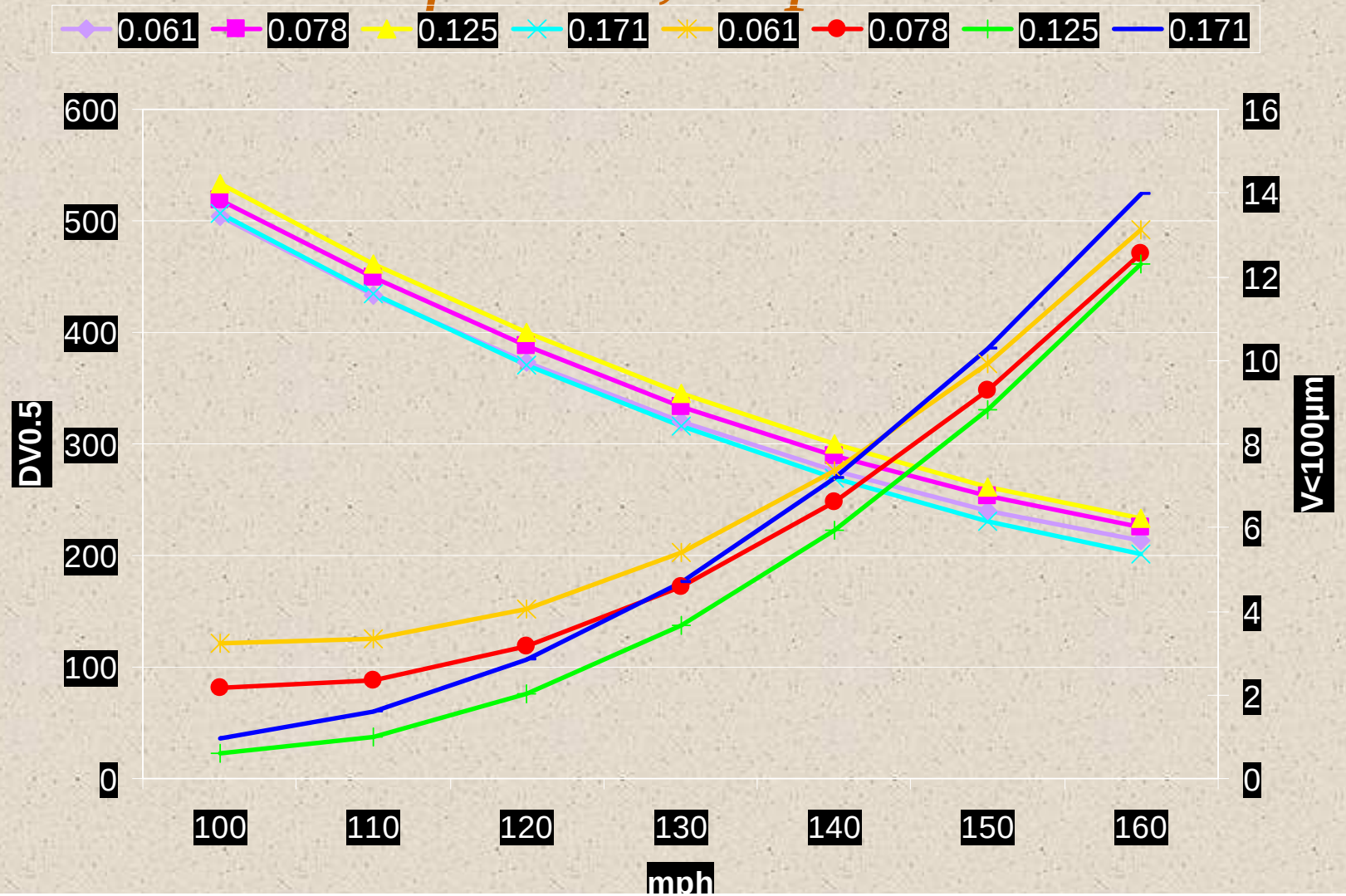
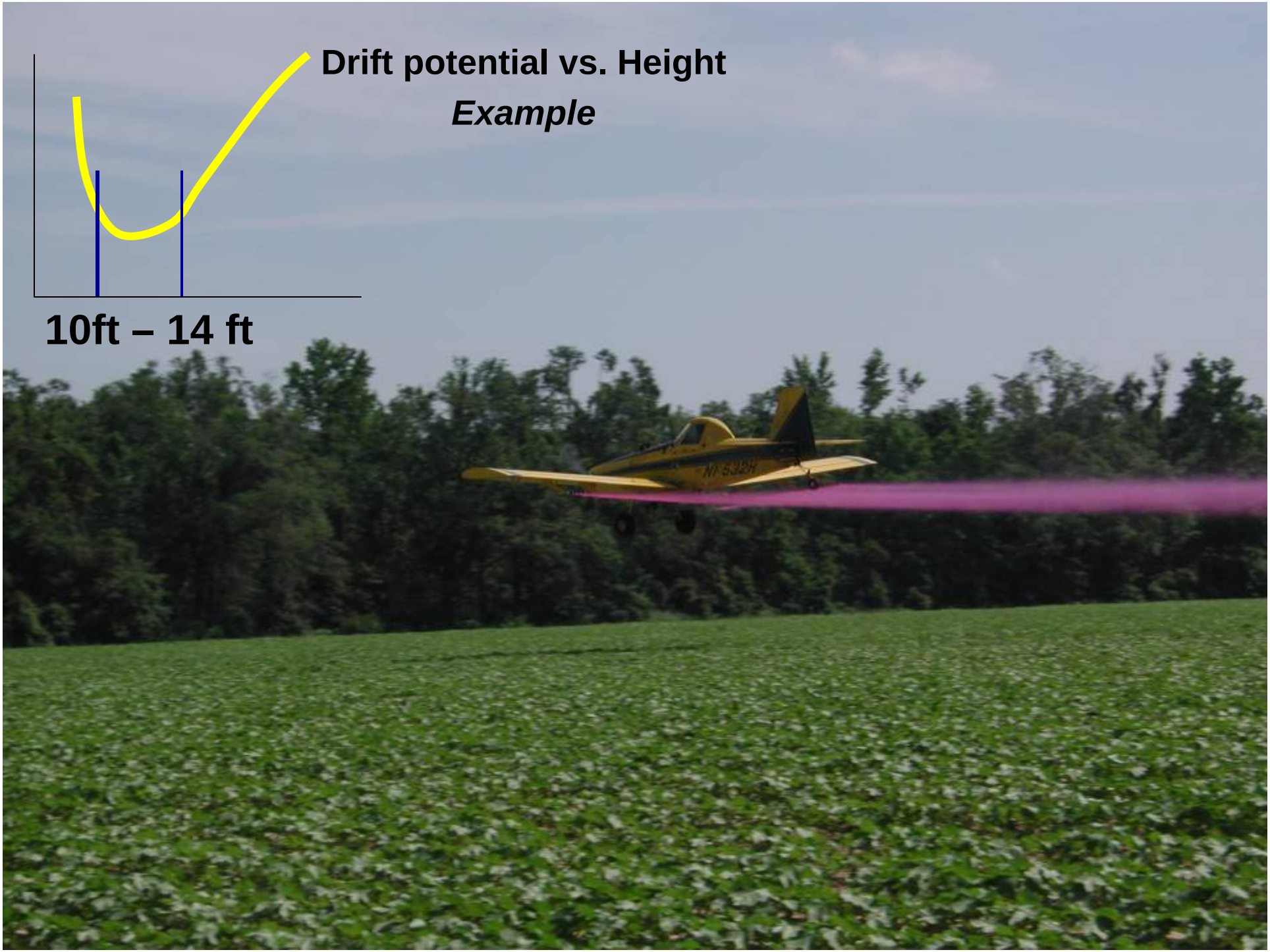
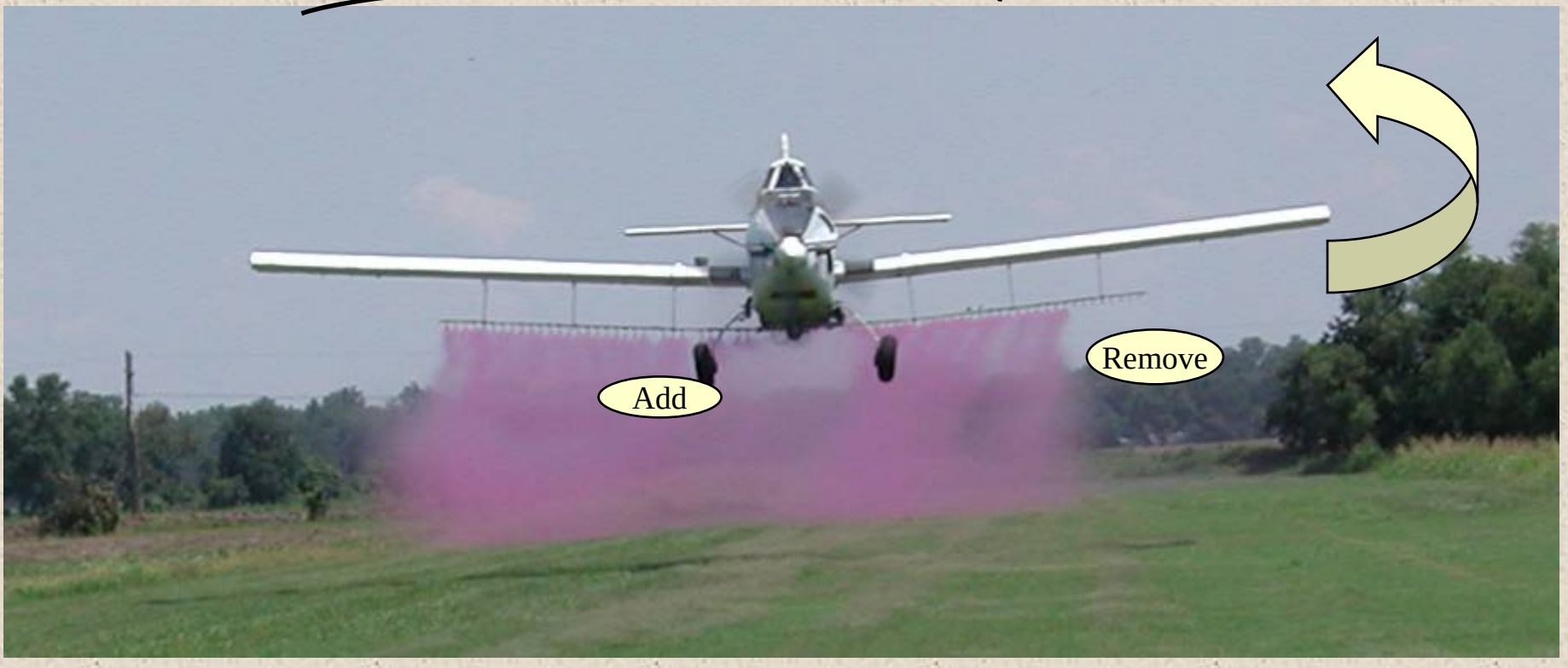
30^0 deflector, 40psi




Drift potential vs. Height
Example
10ft – 14 ft

Before

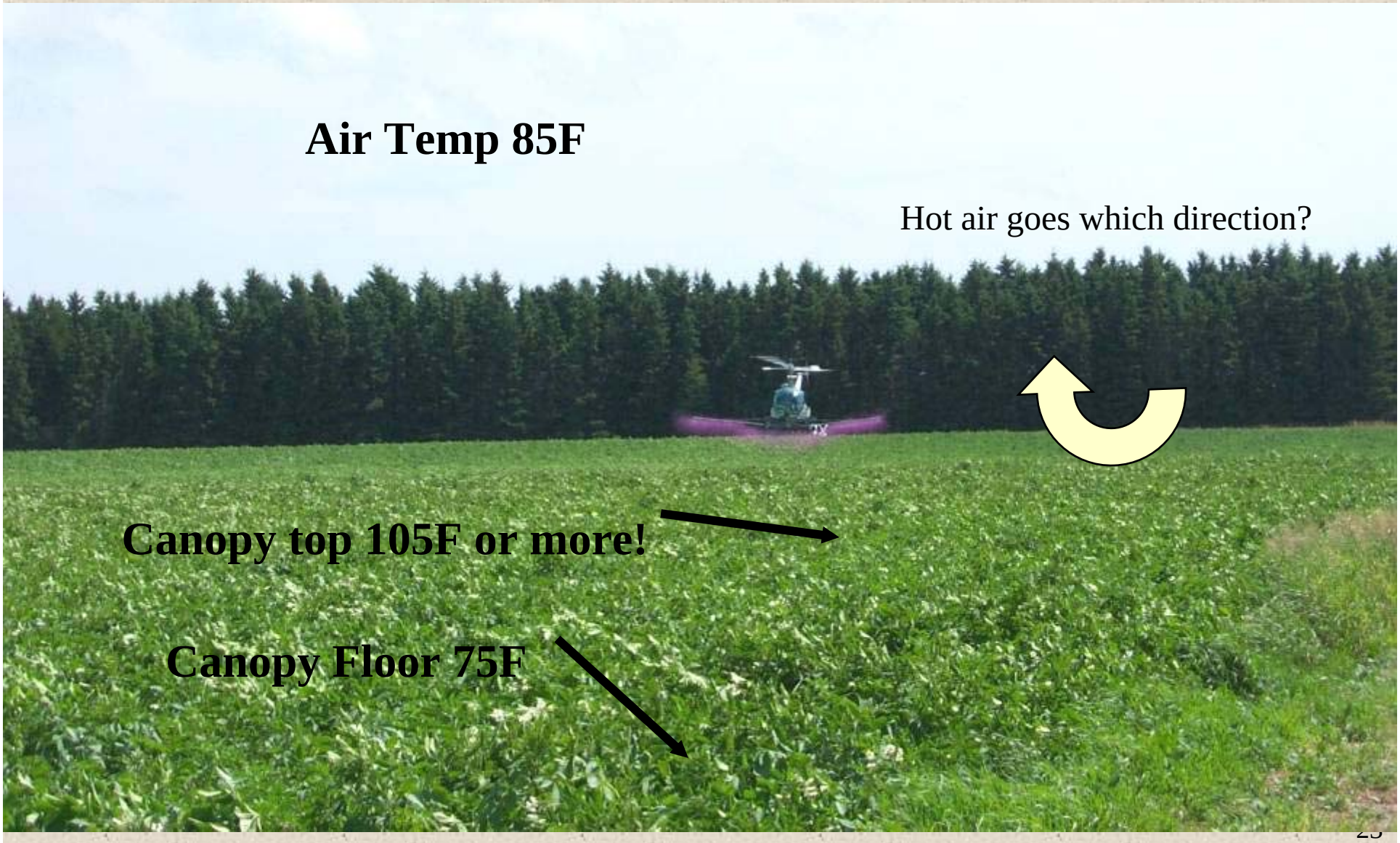
Wind



After

Flight Pattern

- Upwind
- Downwind
- Crosswind effects
- Speed (Slow v. Fast)
- Helicopter v. Fixed wing


Air Temp 85F
Hot air goes which direction?
Canopy top 105F or more!
Canopy Floor 75F

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Coverage Analyses

Figure 4. Arkansas Coverage

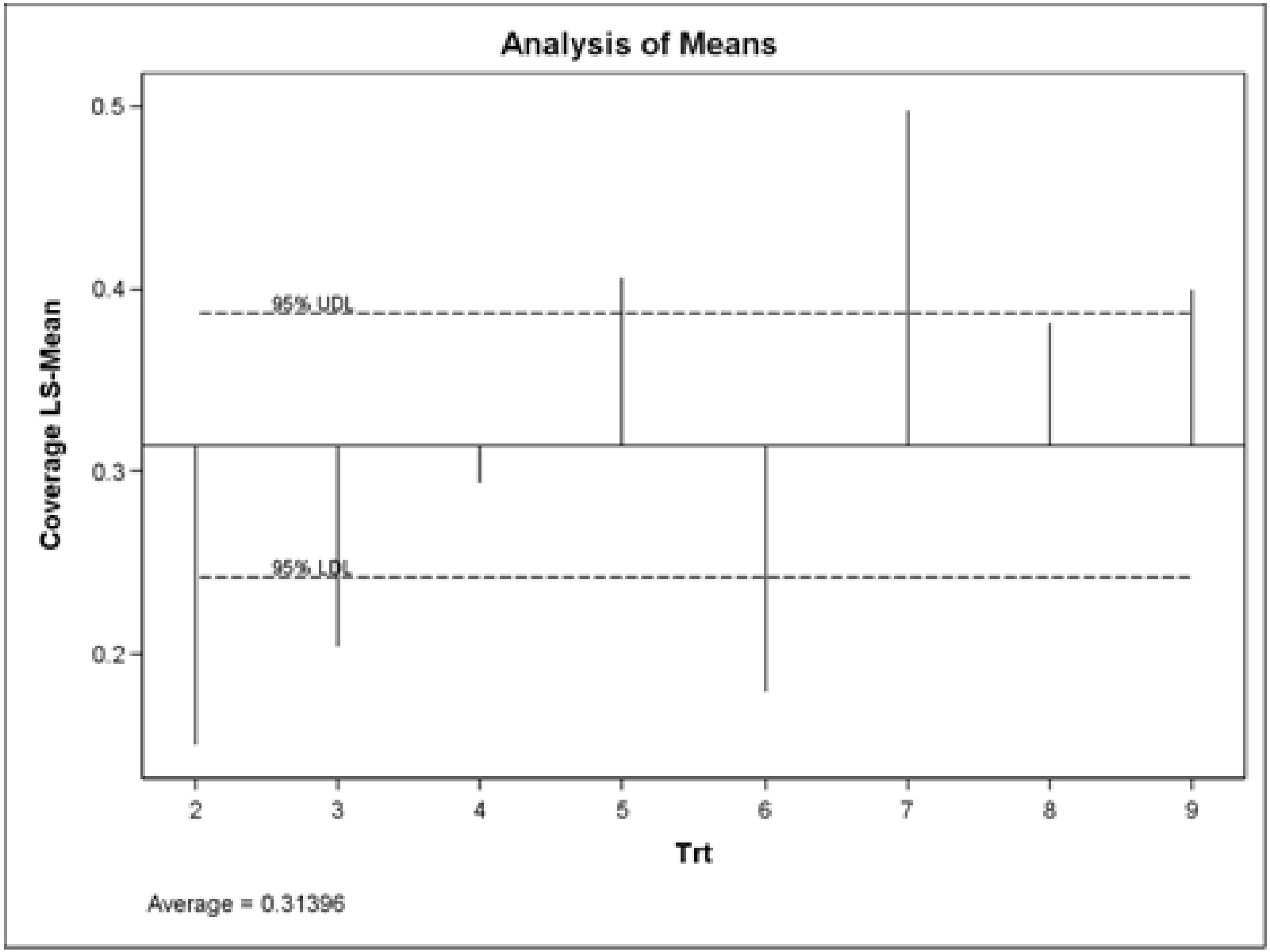

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Figure 5.Kankakee, IL (Eastern IL) Coverage

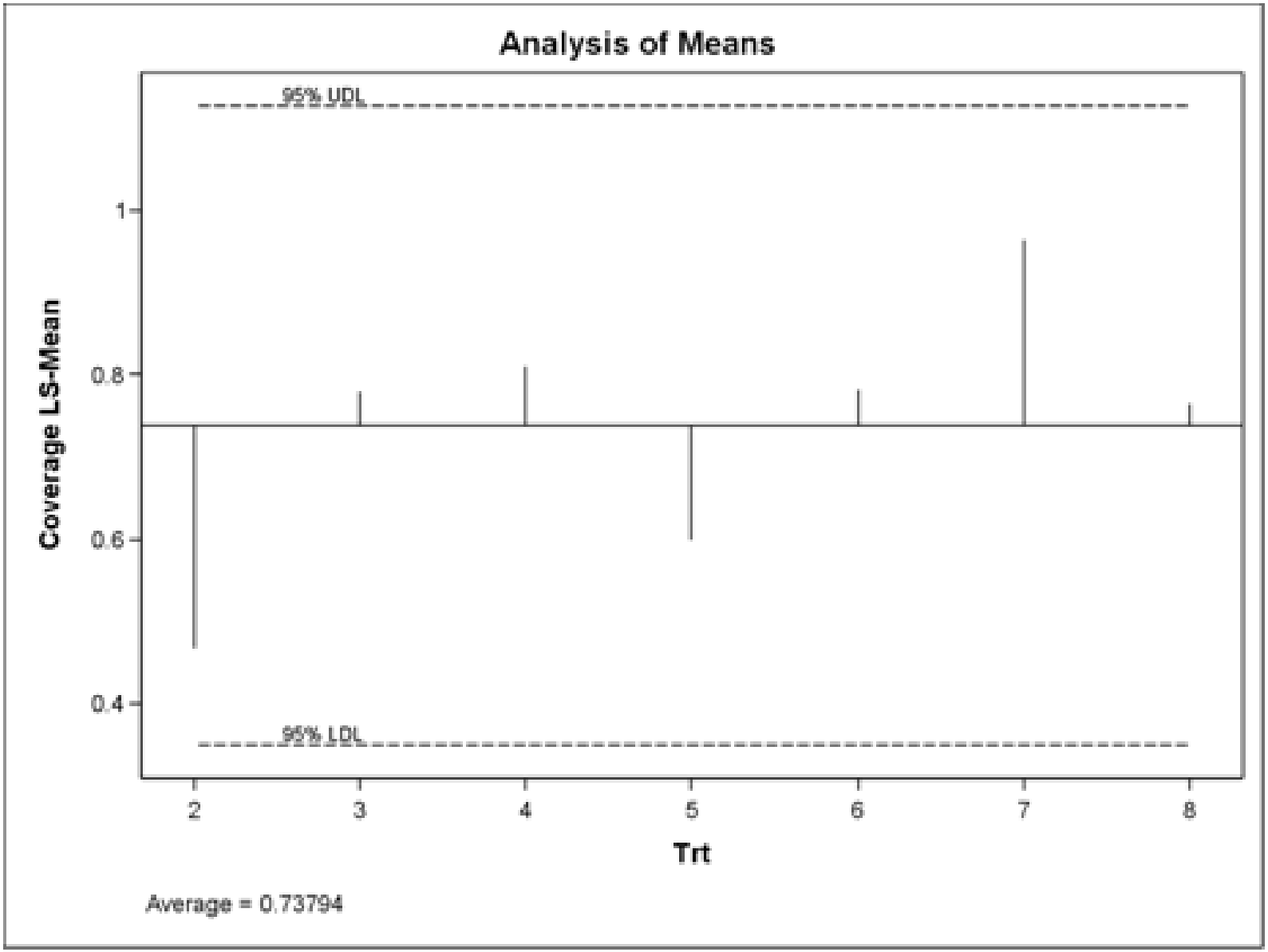

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Figure 6. Bushnell, IL (Western IL) Coverage

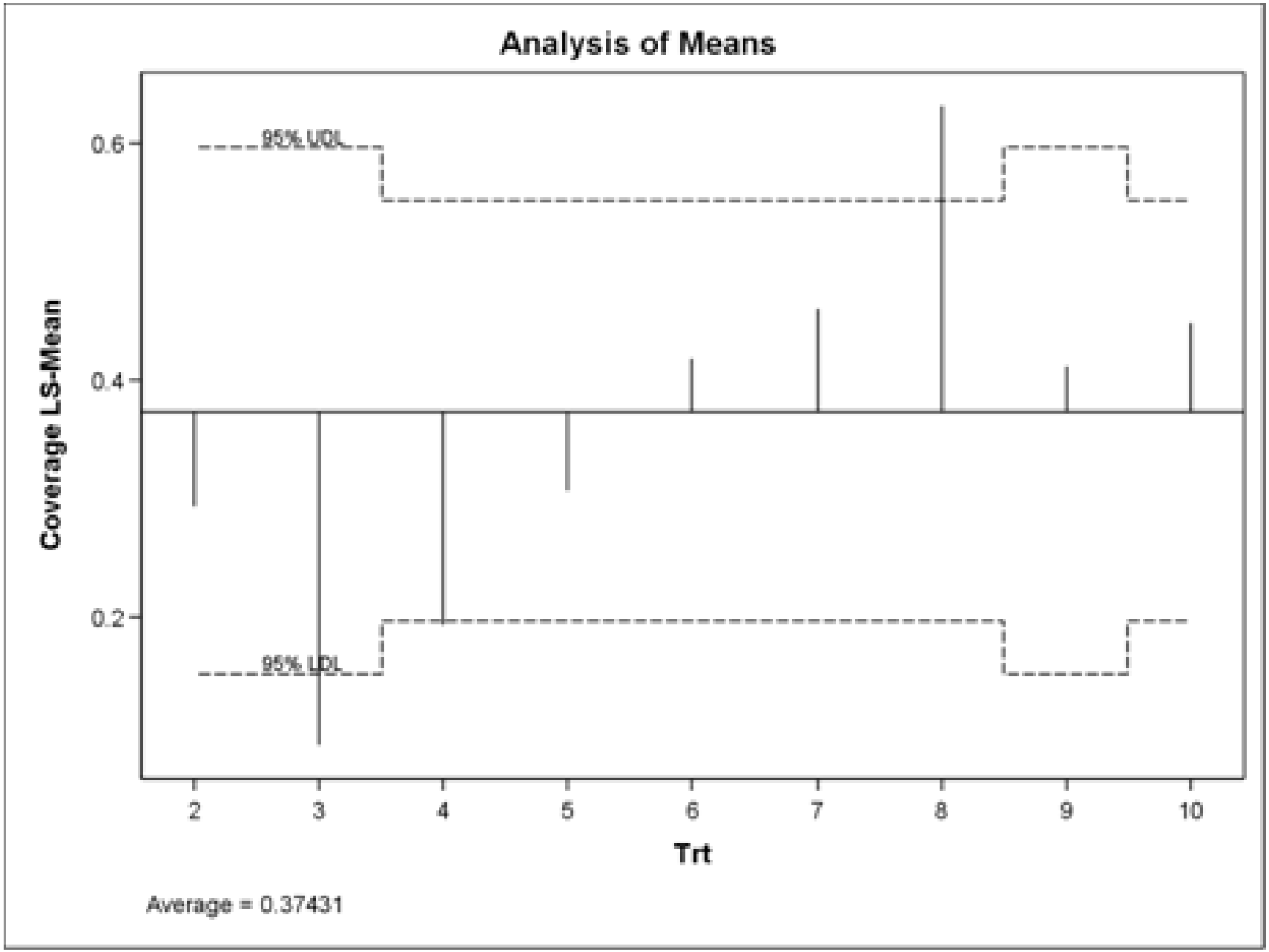

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Figure 7. Kansas Coverage

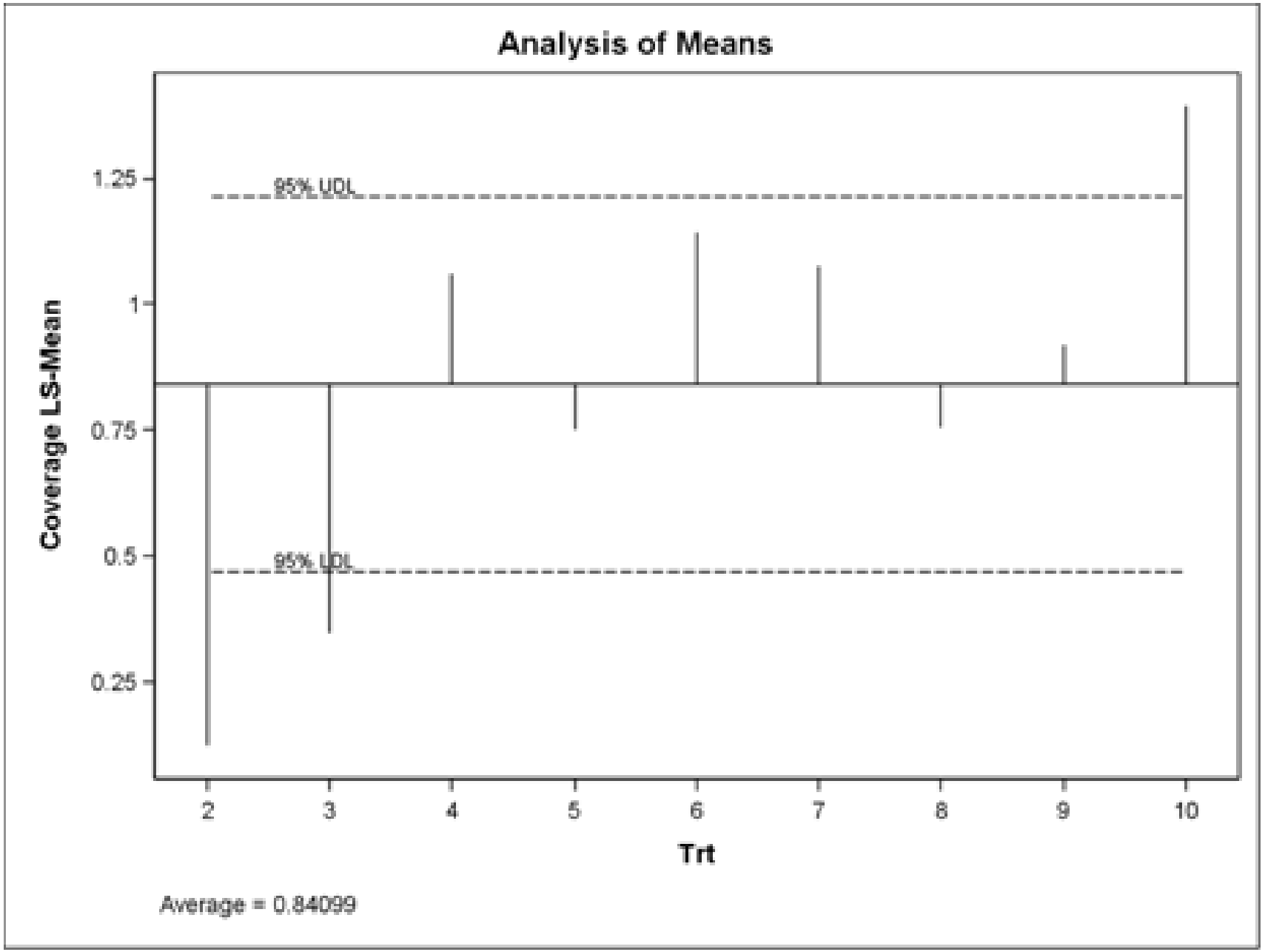

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Figure 8. VMD comparisons for each location

Arkansas

T Grouping for Trt Least Squares Means
LS-means with the same letter are not significantly different.

Trt Code	VMD		
9	320.04		A
			A
6	270.01	B	A
		B	
3	243.58	B	C
		B	C
7	241.73	B	C
		B	C
4	234.11	B	C
		B	C
5	233.79	B	C
			C
8	216.53		C
			C
2	210.16		C

Illinois

3	240.87	A	
		A	
6	239.78	A	
		A	
7	231.7	A	
		A	
5	228.61	A	
		A	
4	218.21	A	
		A	
8	217.4	A	
		A	
2	211.77	A	

Kansas

3	324.66		A
			A
5	318.72	B	A
		B	A
8	310.19	B	A
		B	A
6	309.18	B	A
		B	A
7	307.53	B	A
		B	A
4	301.02	B	A
		B	A
9	297.02	B	A
		B	A
10	290.52	B	A
		B	
2	284.59	B	

Western Illinois

Trt Code	VMD	
3	293.18	A
		A
5	282.96	A
		A
6	274.93	A
		A
9	273.81	A
		A
10	268.8	A
		A
7	263.49	A
		A
4	262.08	A
		A
2	258.6	A
		A
8	252.29	A

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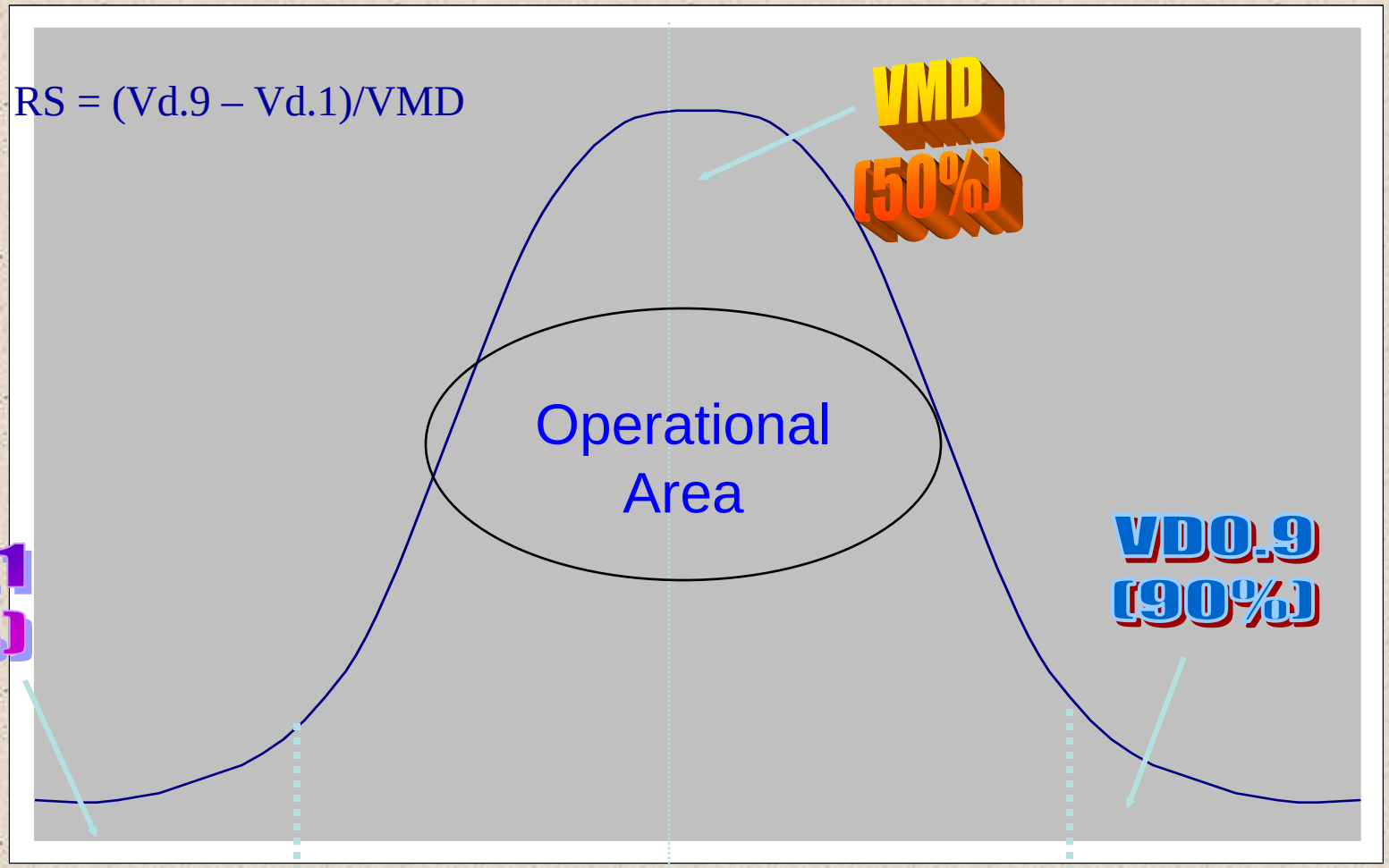
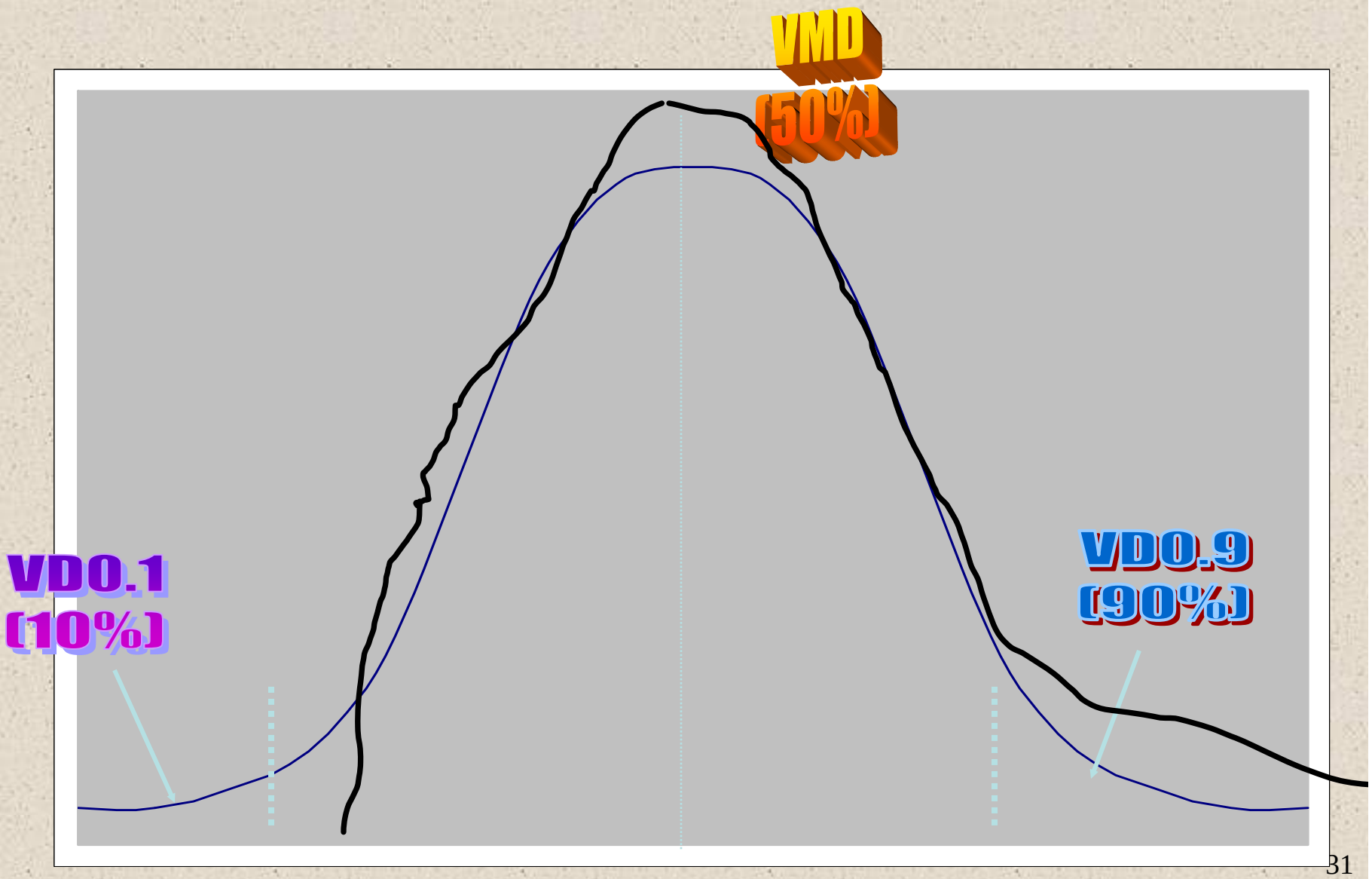
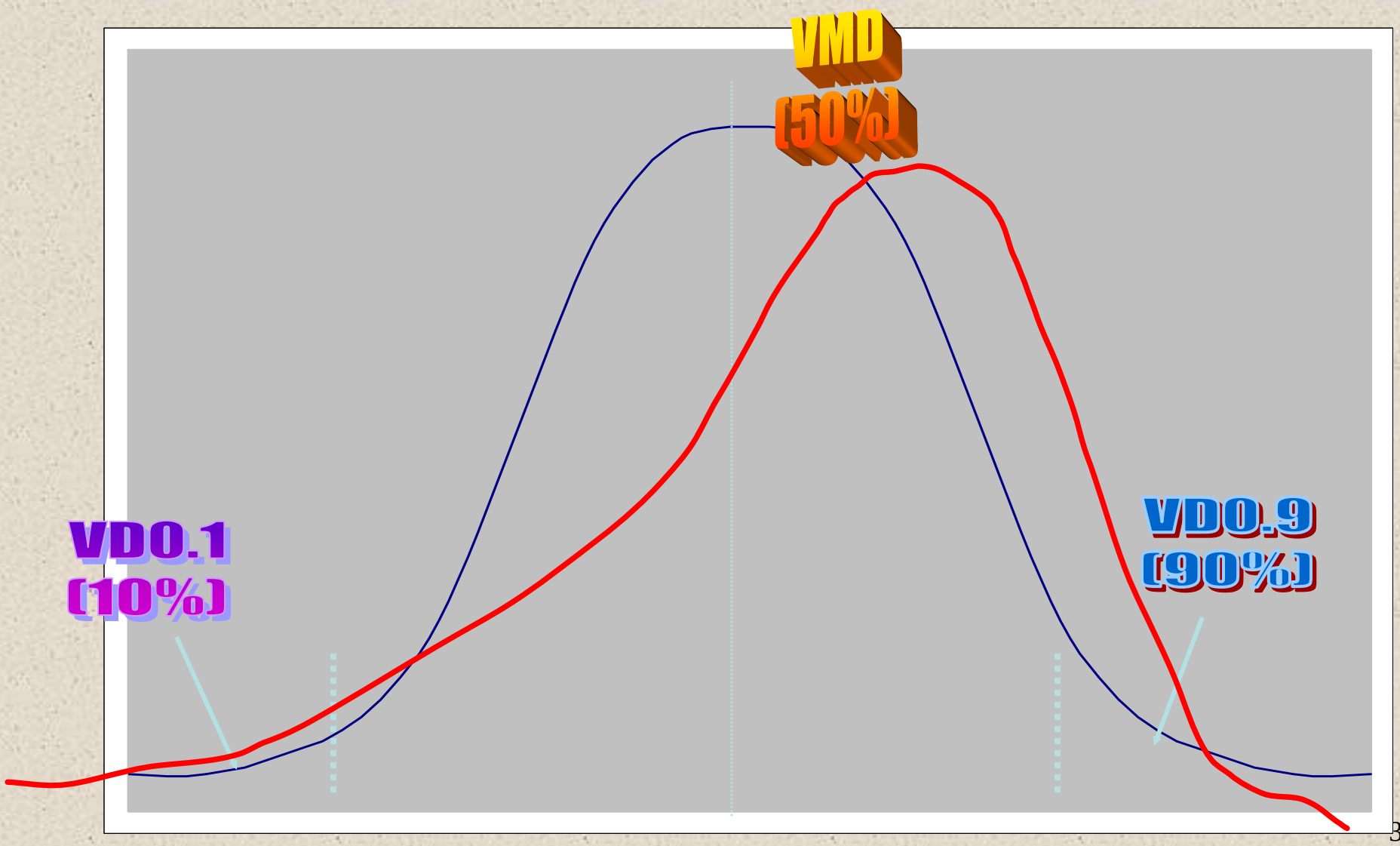
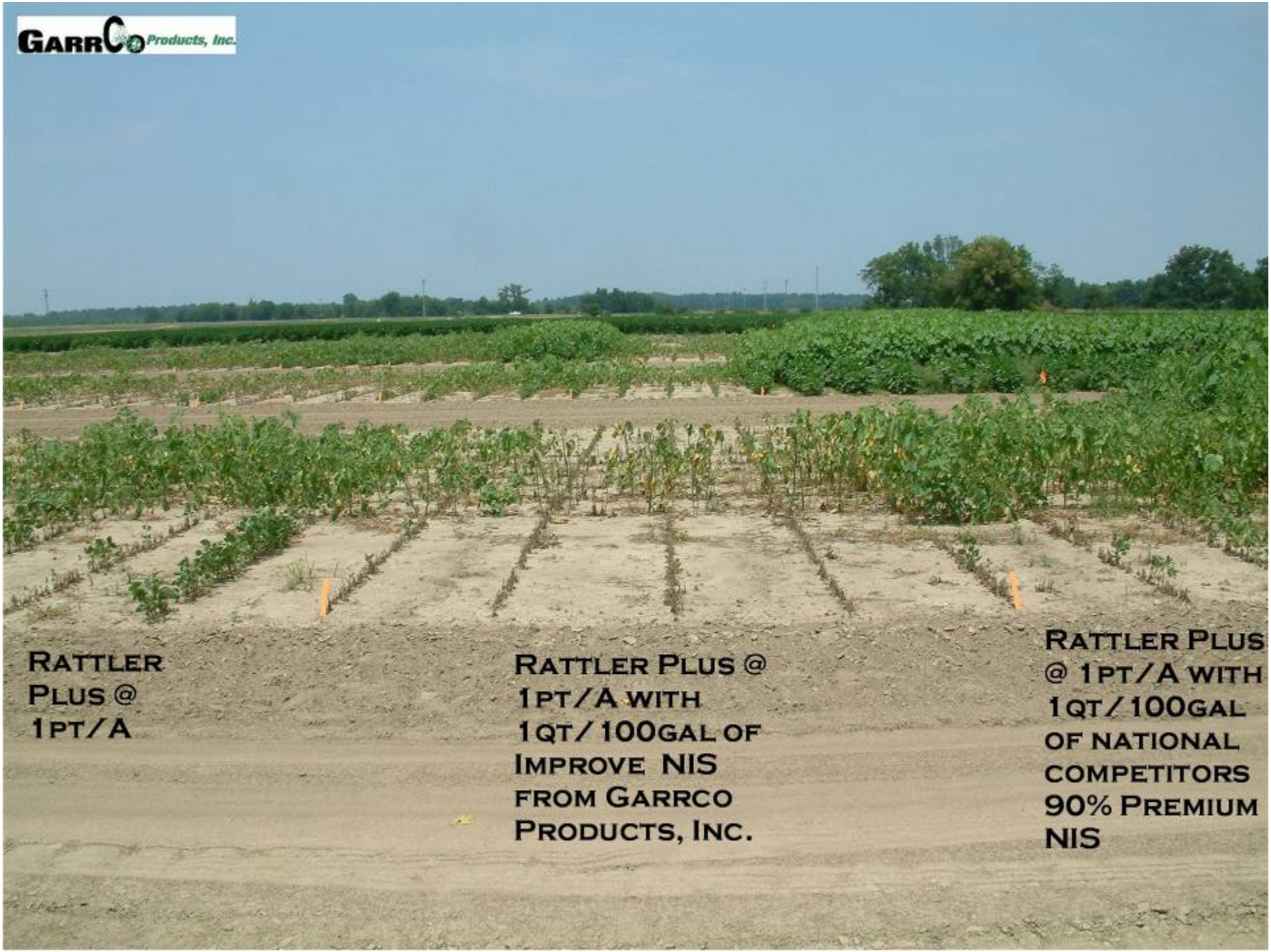
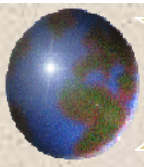
Important Droplet Statistics:




VMD
(50%)
VD0.1
(10%)
VD0.9
(90%)


VMD
(50%)
VDO.1
(10%)
VDO.9
(90%)


GARRCO Products, Inc.
RATTLER PLUS @ 1PT/A
RATTLER PLUS @ 1PT/A WITH 1QT/100GAL OF IMPROVE NIS FROM GARRCO PRODUCTS, INC.
RATTLER PLUS @ 1PT/A WITH 1QT/100GAL OF NATIONAL COMPETITORS 90% PREMIUM NIS



Equipment

- Nozzle type (specific model number if possible)
- Nozzle orifice size
- Nozzle spinner or pre-orifice size
- System pressure – gauge location
- Nozzle location(s):
- Distance behind wing/unit:
- Distance below wing/unit:

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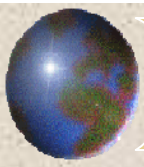

Formulation

- Chemicals in tank mix
- (trade names and common names)
- Form of chemicals in tank mix (4E, 80EDF, 85GR, etc.)
- Specific additives in tank mix (surfactants, adjuvants, drift retardants, anti-foam agents, etc.)
- Diluent (carrier)
- Mix procedures (specific details and times if possible)
- Are there any specific label guidelines for the tank mix used? Provide all label guidelines that apply.
- Other

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The End