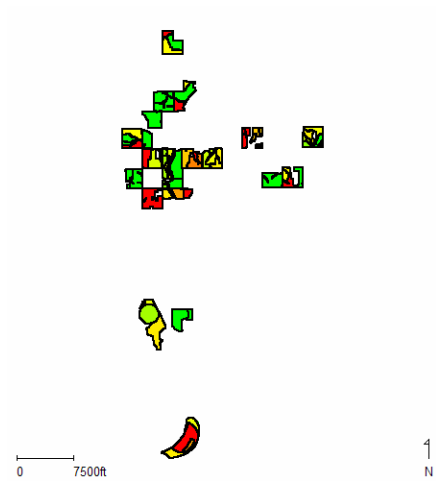


# 2006 28% UAN Study

By Lenhart Farms Inc.

## Lenhart Farms Fields



## Reason for applying for Grant

- To see if different methods of applying 28% to a wheat crop would have an effect on the yield.

## Methods used to collect data

- Trimble EZ map on an Ipaq to log location on application strips.
- Agco Fieldstar 1 to collect yield data
- Agleader SMS basic to query data
- Excel to compile queried data

## Analysis in SMS

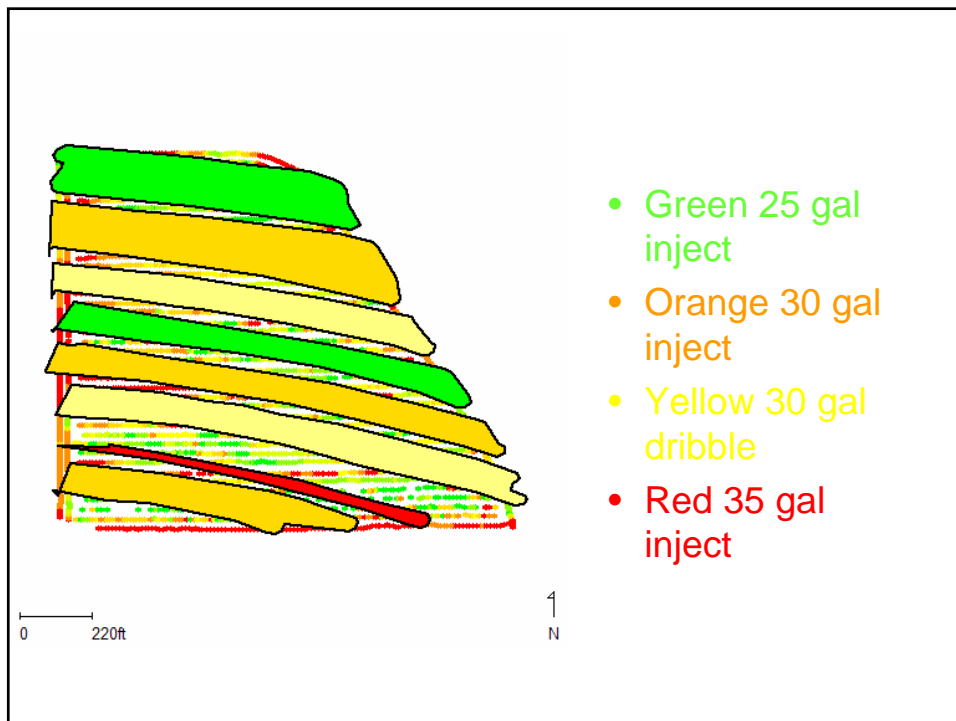
- The yield files were added to the application file
- A polygon was drawn on top of each method then the data was queried under each polygon
- The Bu. / Acre for each polygon was then typed into an Excel spreadsheet
- Kevin & Terry used Excel to analyze the data

## Methods used

- March 3 2006
- Coulter inject
- Stream (raise coulters & stream nozzles)
- Spray
- Fertilizer rates
  - 15 gal
  - 20 gal
  - 25 gal
  - 30 gal
  - 35 gal

## Field 1 soybean stubble Wheat & DC Soybeans

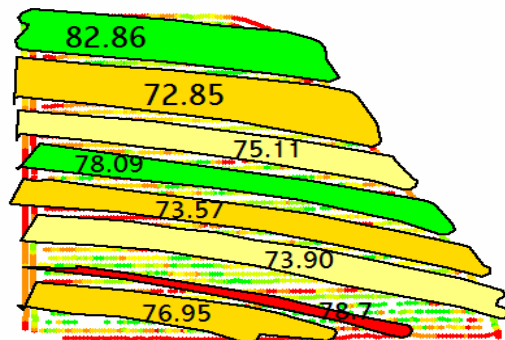
- Application rate of 110# was allowed to achieve a 10 year average plus 10% improvement = 64 Bu. per acre.
- 2 strips of each
- 25 gal injected
- 30 gal injected
- 30 gal dribbled
- 35 gal injected (1 strip)



# Yields

Applaction	Yield Wheat	Moisture	Yield DC Beans	
25 gal injected	82.86	13.04	34.77	9.2
30 gal injected	72.85	13	32.98	9
30 dribbled	75.11	13	28.68	9
25 gal injected	78.09	13	29.82	8.1
30 gal injected	73.57	12.92	30.14	8.8
30 dribbled	73.9		34.7	
35 gal Injected	78.7	13.64	34.28	9
30 gal injected	76.95	14	35.7	9

- Wheat
- 25 gal inject 82.86 & 78.09
- 30 gal inject 72.85 & 73.57 & 76.95
- 30 gal dribble 75.11 & 73.9
- 35 gal inject 78.7



0 220ft

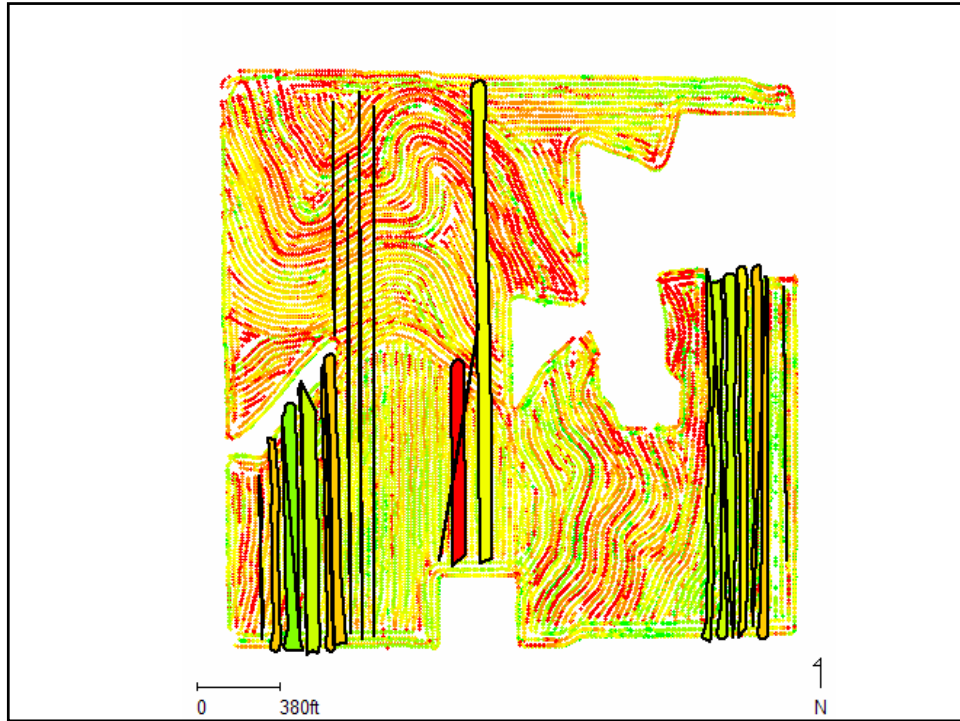
1  
N

mean>	80.475	73.21				
confidence>	0.885008233					
pvalue>	0.114991767					
mean>	80.475	74.4566667	74.505	mean>	32.295	32.94
confidence>	0.905770257	0.51257787	0.887255	confidence>	0.575697	
pvalue>	0.094229743	0.48742213	0.112745	pvalue>	0.424303	
	25 gal injected	30 gal injected	30 dribbled		25 gal injected	30 gal injected
	82.86	72.85	75.11		34.77	32.98
	78.09	73.57	73.9		29.82	30.14
		76.95				35.7
	25 I vs 30 I	30 I vs 30 D	25 I vs 30 D			

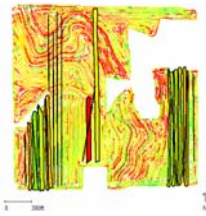
in test last number denotes the type of test (1 for paired-t test, for when data are truly paired), 2 and 3 for standard t-test (use 3 if not paired)

## Field 2 wheat stubble Wheat & DC Soybeans

- Application rate of 60# was permitted to reach 10 year average plus 10% improvement = 60 bu. / acre.
- Several different rates and methods were used
- Rates of 15, 20, & 25 gals
- Sprayed, triple stream nozzle with sprayer, dribbled with coulter machine & injected



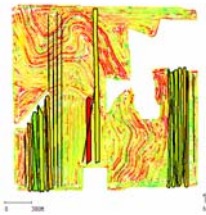
## East strips yields



- 25 gal injected 58.08 & 51.94
- 25 gal dribbled 47.63 & 49.84
- 20 gal injected 43.06 & 47.49

## Middle strip yields

- 20 gal triple streamed Wheat 39.24  
dc beans 32.77
- 25 gal triple streamed Wheat 36.48  
dc beans 31.65



## West strips yields

- |                          | Wheat | DC beans |
|--------------------------|-------|----------|
| • 25 gal triple streamed | 44.76 | 22.44    |
| • 25 gal injected        | 38.75 | 25.27    |
| • 15 gal injected        | 42.42 | 31.35    |
| • 20 gal injected        | 39.34 | 32.82    |
| • 25 gal injected        | 41.16 | 31.18    |
| • 25 gal sprayed         | 40.07 | 30.79    |
| • 25 gal triple streamed | 41.02 | 32.61    |
| • 20 gal triple streamed | 40.3  | 36.03    |

## Conclusion

- Not sure if I identified anything conclusive
- Bands are better than broadcasting ?
- Some tests showed different than expected
- Need more years and location for better analysis

## Questions