

Pushing Yield Saving \$

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OSU

Reaching Max Yield

- Means Inefficient use of N
- Efficient use of N means losing yield
- Can be very true statements
 - Does not have to be though

Corn and Wheat

- General Considerations
- **SOIL TEST SOIL TEST SOIL TEST**
- Soil testing does nothing but increase the \$ in your pocket at harvest.

Date: 9/7/2011		Location: Perry Farmers Co-op			
Source		\$/ton Material	\$/lb N	\$/lb P2O5	\$/lb K2O
Anhydrous	82-0-0	685	0.42		
Urea	46-0-0	620	0.67		
Liquid UAN	28-0-0	375	0.67		
DAP	18-46-0	685	0.67	0.48	
APP (5-11)	10-34-0	740	0.67	0.89	
Potash	0-0-60	670			0.56

* \$/lb in DAP calculated assuming \$ / lb N is equal to Urea
 * \$/lb in APP calculated assuming \$ / lb N is equal to UAN

More applications

- Every time you increase the number of apps NUE & or yield goes up...
- 1) N in environment is reduced and risk of loss of reduced
- 2) In season adjustments can be made.
 - Drought = reduced side-dress
 - Excellent Conditions = increased side-dress

Reference Strips

- N-Rich strip
- High Rate of N applied as a strip through the field.
- Watch it through out growing season

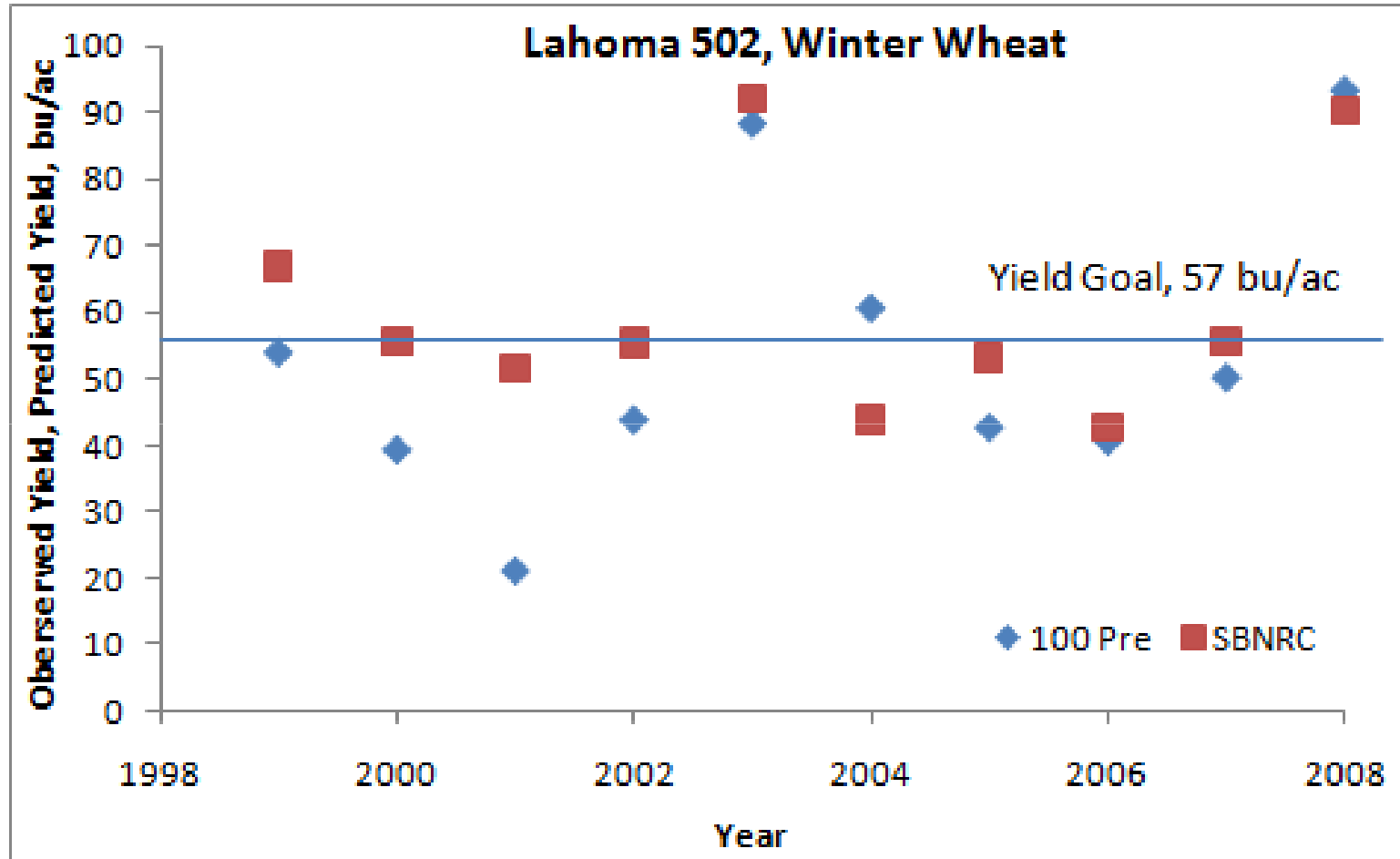


Reference Strips

- Do you see it or not???
- Use the sensor to get exact rate
- Can predict YP.
- Nue.okstate.edu



Yield Prediction



SBNRC ($YPO * RI = YPN$)

100 Pre (100 lbs N/ac applied preplant)

Corn, Mineralization

- Large Scale Replicated SBNRC trial,
 - Three Trts: Farmer Pract., SBNRC, VRT, 60'*400' plot size
 - Missouri River Bottom
 - N-Rich Strip not visible
 - Producer rate of 235
 - SBNRC 115 lb N ac rec, VRT average 83 lb N ac-1
 - 195 bu/ac, 190, and 190 bu/ac respectively

Treatment	Avg Profit	Avg Yield	Total N-rate (lbs/ac)
Farmer Practice	699	195	235
SBNRC Flat Rate	719	190	115
RT-200 VRT	732	190	83
N-Rich	689	209	420

Tissue Testing

- Snap Shot in Time
- Sensitive to the Environment
- Evaluation of Management Strategy
- Diagnosis In-Season Problems

Diagnositic

- Take comparison samples from both good/normal areas of the field, and problem spots.
- Collect soil samples from the same good and bad areas, and don't wait for flowering to sample soybeans.



Diagnostic

- Will identify what is different in the plant.
- You must identify why.
 - K deficiency: due to planter compaction.
 - P deficiency: due to Acidic soil condition.



Fertilizer Recs

- Easrly-season
- Primarily used by consultants and private labs.
- Based on ranges
- Late Season
- Nutrient Management Evaluation Make decision for next year.

Summary on Tissue Testing

- Similar to GreenSeeker
 - Without a known reference there are a lot of variables.
- A quality tool for the tool belt
- “Plant analysis cannot be used to make fertilizer recommendations because the soil pH and soil nutrient level must be known. It can be used to adjust the fertilizer recommendation once the soil level is known. The same factors that interfere with identifying nutrient deficiency symptoms must be considered when interpreting plant analysis. “

Corn Specific

- Pop-ups/starter
 - Early corn in moist cold soils
 - Phosphorus almost always beneficial
 - In high pH, low OM, Zn is beneficial
- N applied up to V 10 makes yield

Wheat Specific

- All Pre-plant
 - Not advised especially this year.
- Majority of N uptake occurs/starts in Jan-Feb.
- NH₃ may be cheaper now but not when the plant needs it.
- N applied up to flag leaf can make yield.
- Flag leaf and after makes protein

Thank you!!!



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