Evaluating Variable Rate Nitrogen Application on an Irrigated Tifton 85 Hay Field

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How the Clemson hay yield monitor works

• Tongue/throat mounted sensors measure windrow height on-the-go
• Window height multiplied by distance traveled to calculate windrow volume
• Windrow volume correlated to bale weight and/or bale count

Unique features of the Clemson hay yield monitor

• Adaptable to any baler
  —Round balers
  —Small square balers
  —Large square balers
• Multiple calibration capabilities
• Aftermarket retrofit or OEM option

Potentially for benefit from VRA in Hay

CLEMSON HAY YIELD MONITOR DEVELOPMENT
Nitrogen Strip Test Design

Yield Data from Nitrogen Test – Tift 85, 3rd Cutting 2016

Yield & Returns as Function of N Rate – Irrigated Only

Yield & Returns as Function of N Rate – Irrigated Only

Typical Steps in Developing Variable Rate Prescriptions

1. Zone Development
2. Productivity Assessment by Zone
3. Rate Assignment
4. Rate Assessment

PUTTING THE YIELD DATA TO WORK: DIRECTED PRESCRIPTION
A NEW CONCEPT IN VARIABLE RATE PRESCRIPTION DEVELOPMENT: D-R\textsubscript{X}

THE CLEMSON “DIRECTED PRESCRIPTION” SYSTEM

How It Works: D-R\textsubscript{X} Idealized Concept

POTENTIAL FOR BENEFIT FROM VRA IN HAY
VRA Nitrogen Directed Rx

Yield Benefit Potential from VRA-N in Tift 85

Profit Benefit Potential from VRA-N in Tift-85

DIRECTED RX FOR OTHER VARIABLE RATE APPLICATIONS
Variable Rate Corn Seeding Profitability = $16/ac

Soybeans: Evaluation of Variable Rate Seed Profitability

Cotton: Evaluation of Variable Rate N Profitability

CONCLUSIONS

• Use of yield data from your own on-farm strip trials can help you maximize profitability
  – Regardless of whether or not you utilize VRA
  – Can be used to assess cost-benefit of VRA on your operation
  – Contact us...we can and want to help you set these tests up

Questions? kirk2@clemson.edu
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