

Overview & Update: The Clay Drainage Site

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Will not present data.....

A field drainage site in the Red River Valley.

- Where.
- Why.
- What we are doing.....









Near an MDA Surface Water Site



Why & What? Clay Drainage Site





•Edge-of-field scale

•Provides <u>baseline data</u> nutrient concentrations and nutrient loads discharged from subsurface and surface drainage

- Monitors the <u>quantity and quality</u> of water leaving agricultural fields
- Water <u>samples automatically</u> collected during storm events



Clay Drainage Site Timeline:

- 2006: Subsurface tile installed at the site
- 2007-09: CIG project field testing available controlled drainage equipment in this landscape
- 2010: Site Re-instrumented to collect water quality data
- 2011: First year of drainage WQ data collected Baseline data – No treatments
- 2012: No flow from the site....<u>NONE</u>. Stefan Bischof hired in August
- 2013: Second year of drainage WQ data Flow measurement equipment install planned Baseline data continues – No treatments





Monitoring Challenges...



- Equipment submergence
- Low position in basin

• Spring snowmelt

- Wind/Drifting
- Low position in basin









Clay Drainage Site Review



Exceptional Site for Demonstration Study

- Field Scale
- Replication
- Soils

- Topography
- Representative
- Current Questions

- Long Term Site
- Baseline Drainage Quantity & Quality
- Tiling Agronomic & Economic Costs/Benefits



Clay Drainage Site Capacity...



What the site CAN provide...

• Water Quality Information

- Nutrients (N+N, TP, OP, TSS on surface plot)
- Load Information
- Concentration Data

Agronomic Information

- BMP Evaluation
- Cost/Benefit Comparison
- Field Operation Challenges

• Water Quantity Information

- Volume
- Timing
- Duration



Clay Drainage Site Capacity...



What the site IS NOT...

- Not a complete answer to tiling impacts on flooding.
- Size will limit the extremes.

.....Risk of loss is a factor

Monitoring limitations exist.

.....Regional climate, topography, and site scale





• Provide a <u>Scientifically Sound Dataset</u>.

- An edge of field understanding of drainage in the RRV.

- <u>Inform</u> Regional Leaders & Decision Makers.
 - Local, Regional, & State Government
 - Area Producers
 - Drainage Industry





Thank you for your time!!



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