Technical Issues At A Comprehensive Manure Management Business

Mike Evans - Agronomist
Christensen Family Farms
Sleepy Eye, MN
Evolution of Christensen Farms

• 1974 - Two bred gilts

• 1980 - 140 head farrow-to-finish operation

• Today - 140,000 sows
Evolution of Christensen Farms

• Contracts with over 350 farm families

• Operations in:
  – MN, IA, NE, SD and Illinois

• Employs over 1,000 people
Sleepy Eye Office
Sleepy Eye Feedmill
Christensen Farms

• CF – Manure valuable resource
  • Market has not always had that view

• Business Development
  • Started marketing value in 1994
Christensen Farms

- Marketing is a key to successful comprehensive nutrient management

- Agronomy Department
  - created in 1998
Agronomy Department

Provide uncompromising environmental stewardship for CFF and its stakeholders by delivering value in products, sound agronomic advice, complete regulatory compliance and by identifying and responding to community values.
Nutrient Resource Management

CF dedicates substantial resources to Environmental Stewardship:

• Staff – 7 Agronomists
• Technology – GPS / GIS systems
Technology
Nutrient Resource Management

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• Research
  • University of Minnesota
  • National Soil Tilth Lab
Research
Nutrient Resource Management

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- **Staff** – 7 Agronomists
- **Technology** – GPS / GIS systems
- **Research**
  - University of Minnesota
  - National Soil Tilth Lab
- **Education**
  - In house Custom Applicator Training
  - Field days for producers/cooperators
Field Days
CF Agronomy Business Model

• Manure Value = Sound Agronomic Use

• Sound Agronomic Use = BMP’s

• BMP’s = Environmental Stewardship
Competing Interests

Government Agencies

Crop Producer
Competing Interests

• Christensen Farms
  • Economics / Compliance

• Government Agencies
  • Broad Brush Approach

• Crop Producers
  • Site Specific / Value driven
What data do we use?

MN & US Corn yield trends

- MN: 2.4 bu/year
- US: 2.3 bu/year

3.4 bu/year increase

Year: 1994 to 2004
Bu/acre: 100 to 200

MN = Linear (MN)
US = Linear (US)
Schieffert = Linear (Schieffert)
CF & U of MN - 1999 Plot

Corn Grain Yield by Manure Rate

\[ y = -3E-06x^2 + 0.0321x + 103.46 \]

\[ R^2 = 0.7397 \]
Summary

• Manure is a valuable resource.
  – Let's not return to a “waste disposal” mentality