



# 1995 – 2015

## 20 Years in Review

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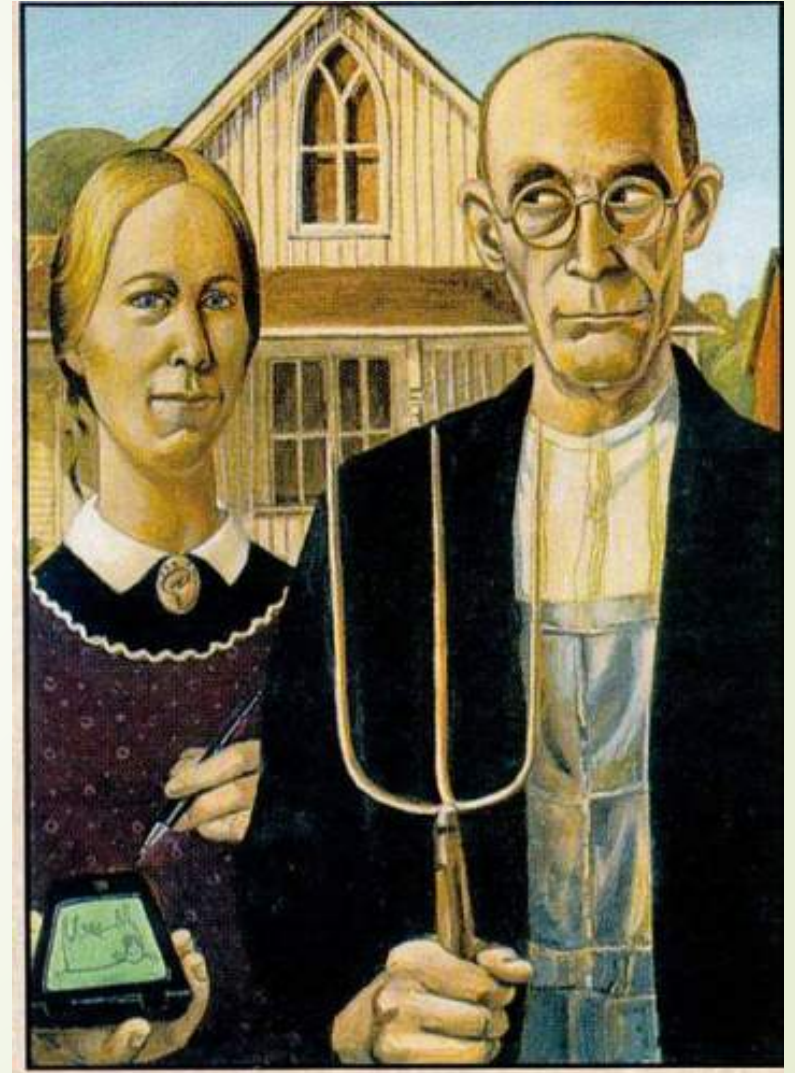


# 1995 – 2015: 20 Years in Review

## ► Imagine a world --- without Precision Ag

- Look at your smartphone...remember the Bag Phone???
- Think about how many emails and text messages you send in a day...remember pen, paper, and stamps???
- How does your GPS unit handle compared to that paper road atlas??
- Compare variable-rate controllers, to adjusting seeding, chemical, and fertilizer rates by hand on-the-go....
- Yield monitors vs weigh wagons
- How many notebooks would it take to record the data for this season that you put on a computer disk---or the cloud??
- Imagine all of the technologies that we have today that we couldn't dream about in 1995. A lot has happened in the last 20 years.
- For many of the PA technologies, there was no "old way" to do it!!

► Visit the **20 Years of InfoAg** Exhibit  
Station Master's Room



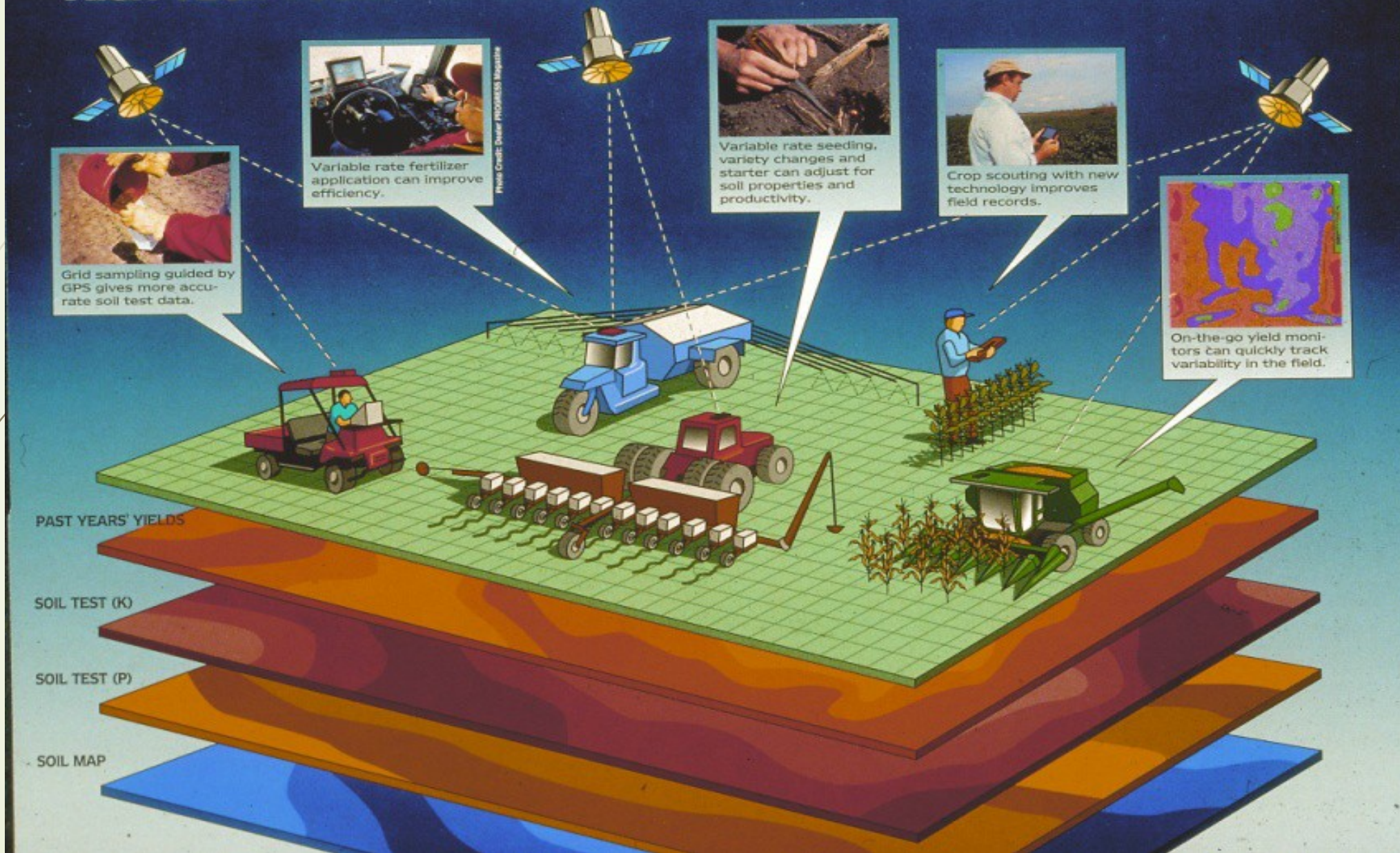


# 1994...

- Wisconsin Fertilizer, AgLime, & Pesticide Conference
  - Wisconsin Crop Consultants requested help in preparing a Precision Ag Showcase at *Farm Progress Days*
- Ag Technology Exhibit at **1994 Farm Progress Show**
- Exhibitors asked for a conference on precision agriculture.
  - *Potash & Phosphate Institute* agreed to sponsor.



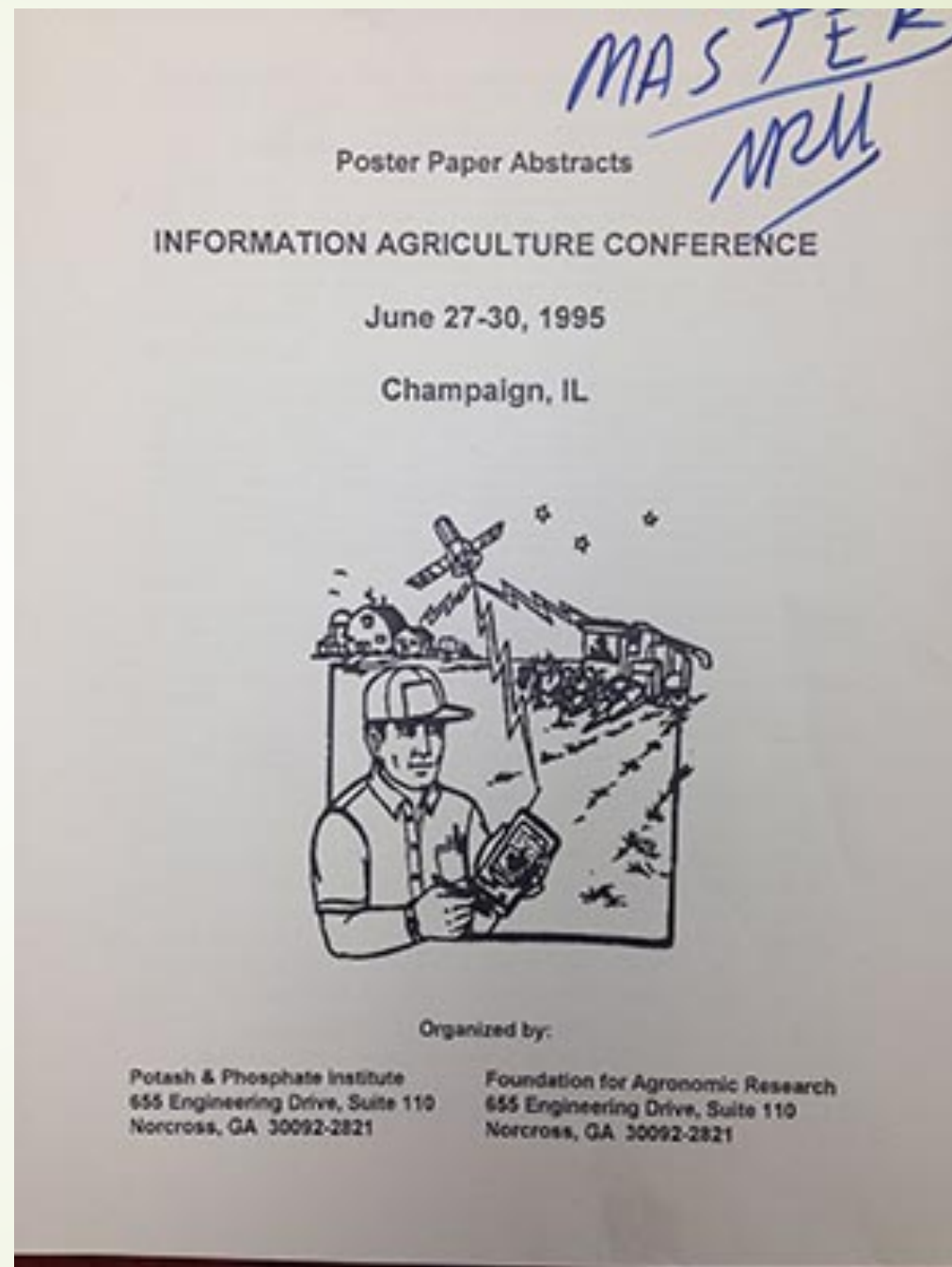
# HIGH-TECH TOOLS FOR SITE-SPECIFIC CROP NUTRIENT MANAGEMENT





# 1995...

- **First Information Agriculture Conference**
  - Chancellor Hotel, Champaign, IL
  - 200+ registered
  - 800+ attended
- Cyberfarm Diner
- 20-25 (?) exhibits
- **EXCITEMENT**



# Information Agriculture

## “InfoAg”

- More than precision tools and variable-rate technology
  - Collect, manage, and interpret information
  - Data standardization and compatibility among systems
- Integrate information, software tools, hardware, and controllers

### ***better-informed decisions***

- “Big Data” collecting managing, and using massive quantities of data to help make decisions

*“80% of the data being generated by farm machinery in the U.S. today still resides on those machines---it never gets into a form that can be analyzed and ultimately used by the farmer or others.” --- John Fulton*

- **“Big Data” vs “Little Data” and “Big Farmers” vs “Small Farmers”**

***ALL*** benefit from technology and data... ***if they use it!***



# InfoAg Conferences

1995—Champaign, IL  
1996---Urbana, IL  
1997---Urbana, IL  
1999---West Lafayette, IN  
2001---Indianapolis, IN  
2003---Indianapolis, IN  
2005---Springfield, IL  
2007---Springfield, IL  
2009---Springfield, IL  
2011--- Springfield, IL  
2013--- Springfield, IL  
2014---St. Louis, MO  
2015---St. Louis, MO



2000---Agro Informatica  
Argentina  
Regional InfoAg Conferences  
2005---Tunica, MS  
2007—Kennewick, WA  
—Starkville, MS



# Agro Informatica 2000 Conference





# INTA Booth at Agro Informatica 2000 Conference

**INTA**

## ALTA TECNOLOGIA PARA APLICACION VARIABLE DE INSUMOS

**APLICACION DE FERTILIZANTES EN DOSIS VARIABLES Y/O DIFERENTES PRODUCTOS.**

**LOS ANALISIS DE SUELOS OBTENIDOS DE MUESTRAS INDIVIDUALES GUIADAS POR EL GPS APORTAN INFORMACION MAS PRECISA**

**DENSIDADES DE SIEMBRA VARIABLES; CAMBIOS DE CULTIVARES Y FERTILIZANTES ARRANCADORES, SE PUEDEN AJUSTAR DE ACUERDO AL TIPO DE SUELO.**

**MONITOREOS DE CULTIVOS CON NUEVAS TECNOLOGIAS MEJORAN LOS DATOS DE CAMPO.**

**MONITOREO DE RENDIMIENTO EN TIEMPO REAL**

MAPA DE RENDIMIENTOS  
MAPA DE NITROGENO  
MAPA DE PH  
MAPA DE SUELOS

12/9/2000

AGRO INFORMATICA 2000





# Lunch!!!





# ***It has been a Team Effort!***

- Thanks to **PPI/IPNI** for supporting InfoAg for 20 years!
  - *How does this help market fertilizer???*
  - *Will it hurt fertilizer markets???*
- Thanks to Farm Progress Show for allowing the exhibit --- 1994-2004
  - *Thanks to company reps for participating—sharing the dream!*
  - *Thanks to Meredith Agrimedia- **Successful Farming** and **Agriculture.com***
  - *Thanks to Meister Media and **CropLife** magazine for partnering on exhibits at InfoAg and Farm Progress Show for most of the 20 years.*
- Almost **10,000 people** have attended InfoAg in the last 20 years!
- Thanks to **Quentin Rund** for support and encouragement----and a whole lot of work!!
- ***Thanks to all of you who have shared the dream and made it become a reality!!***



# Facilitator

- Some people **make** things happen
- Some people **watch** things happen
- Some people **wonder what happened!**
- I have played the role of **FACILITATOR**
  - **Creating venues (conferences)**
  - **Networking opportunities**
  - **Information transfer**
    - *Organizing Meetings*
    - *Presentations at meetings*
    - *Writing articles and book chapters*



# InfoAg ---Technology-Information-People

## Technology

- Variable rate
  - *Monitors, sensors, controllers*
- Satellites:
  - *GPS, remote sensing, communication*
- Computers:
  - *mainframe, desktop, laptop, handheld, wearable*
- Cameras
- Robotics
- UAVs
- Nanotechnology ????

## Information

- Data
  - *GIS*
  - *Geostatistics*
  - *Thumb drives/warehouses*
- Imagery
  - *Visible, IR, multispectral*
  - *NDVI, etc.*
- Software
  - *Mapping, Models, Analysis,*
  - *integration of information*
- Communication
- Internet
- Cloud



# **InfoAg ---Technology-Information-People**

## **People**

- Researchers
  - *Universities*
  - *Industry*
  - *Government*
- Product developers
- Dealers
- Educators
- Consultants
- Farmers

## **Networking**

- Meetings
  - Video conferences
- Field demonstrations
- Communication
  - *E-mail*
  - *Websites*
  - *Social networks*
  - *Blogs*
- Face-to-Face









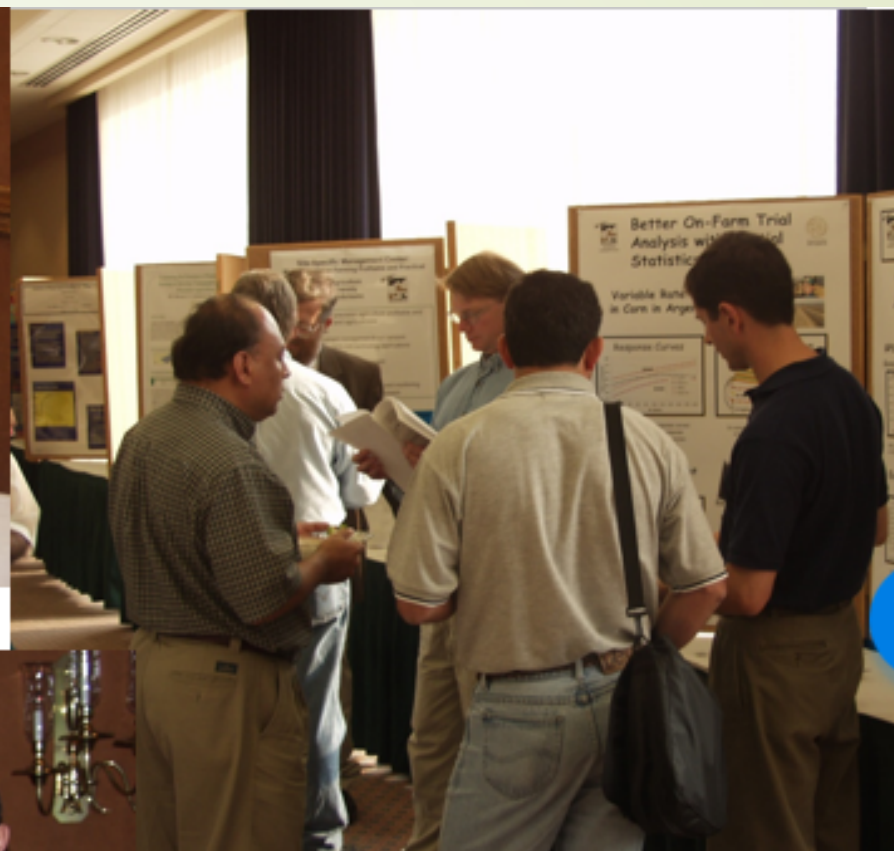
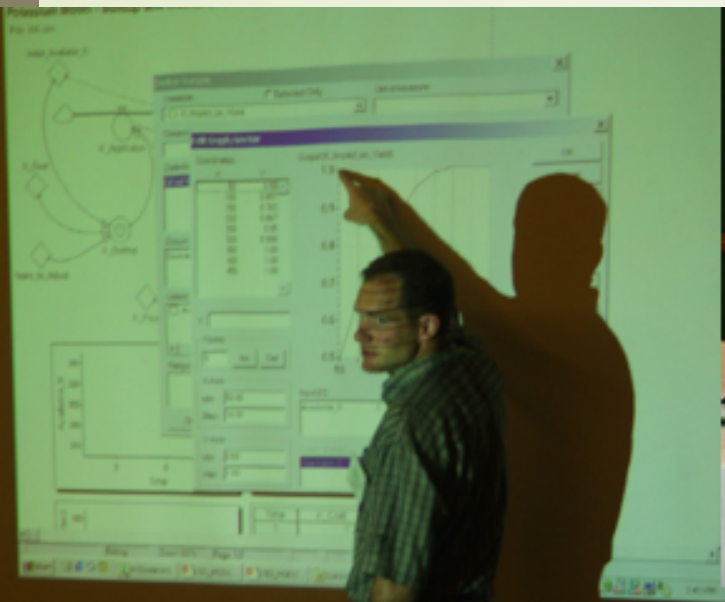




## CASE III

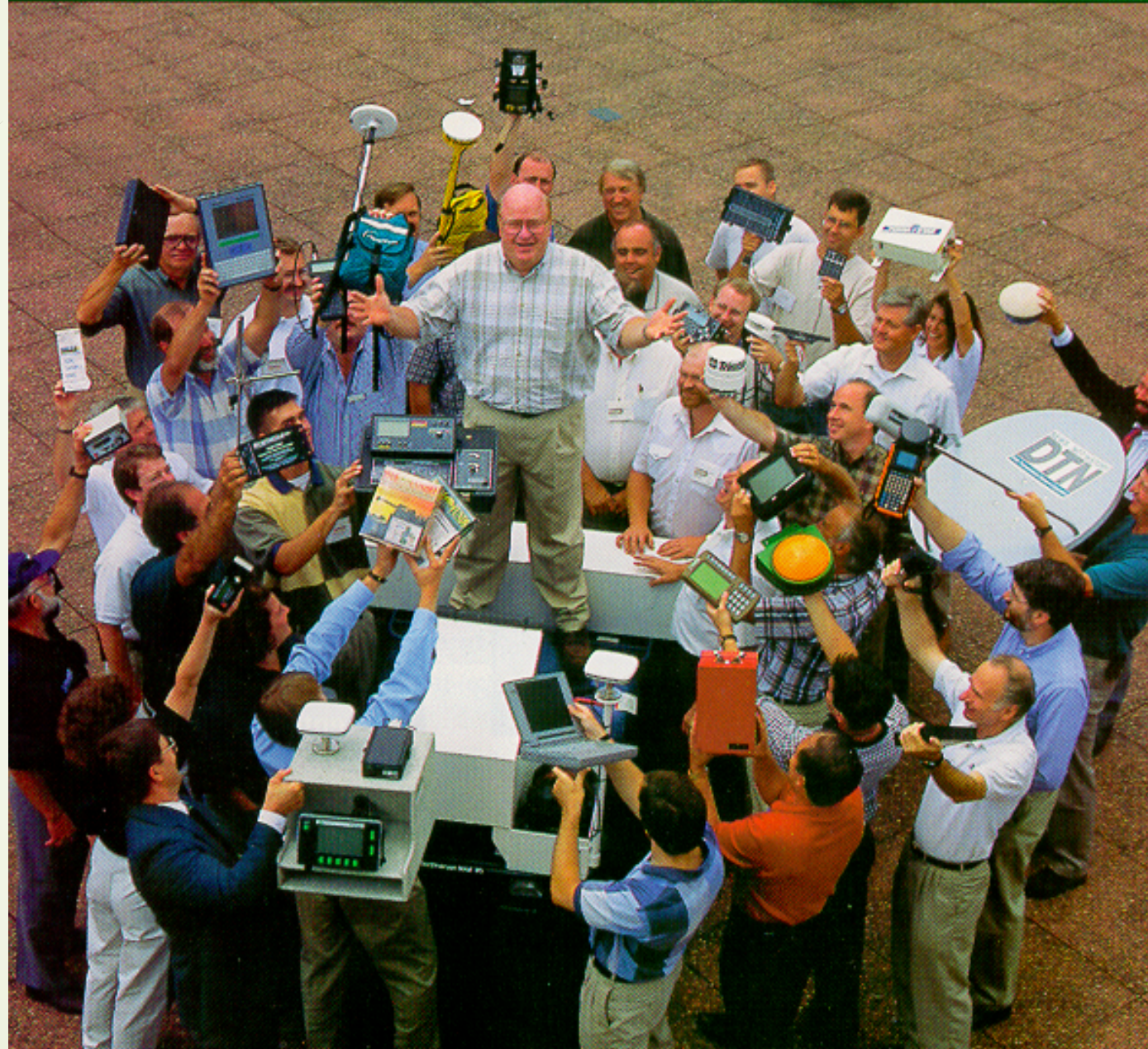








# Agronomy First!



# After 20 Years of InfoAg...We Have...

- Better connectivity among components/data
- Data ➡ information ➡ decisions
- Remote control, wireless data transfer,
- Mobile data transfer---"cloud"
- Data standards---Ag Gateway, etc.
- "Apps" for EVERYTHING
- Machinery dealers with **Agronomists** on staff
- Fertilizer dealers with **technology support** staff
- **Jobs** created that didn't exist in 1995
- Data ownership?/sharing with input suppliers
- 50% of farmers using precision systems
- Integration of databases
- AGRONOMY/**ECONOMICS**/ENVIRONMENT/**SOCIAL**

## 4R Nutrient Management

- **Right Source**
- **Right Rate**
- **Right Place**
- **Right Time**
- ....and...
- **Right Information**
- In the hands of the **Right People**
- **Making the Right Decisions**





# Precision Agriculture --Today

- Technology continues to improve
  - *Better tools*
  - *New tools*
  - *Better local support*
- More data
  - *Local*
  - *Commercial services*
  - *Cloud-based systems*
- 4R Nutrient Management
  - *Nutrient use efficiency*
  - *Improved profits*
  - *Nutrient Loss Reduction Strategy*

# ....2035 ????

- Sensors, controllers, monitors-----of everything
- Auto-guidance----without on-board operator in many cases
- Dedicated robots for special tasks
- Smaller, more versatile machines vs today's larger systems
- UAVs---imagery, monitoring, application, delivery
- Remote control; telematics
- Wearables; Nanotechnology???
- Automated data collection, analysis, and interpretation
  - *Simulation models to predict responses and guide field operations and decisions*
  - *Complex integrated systems for data analysis, interpretation, recommended action... **Decision Agriculture.***
- *Communication advances*
- **INFORMATION---Collecting, managing, analyzing, interpreting**



# Thank You!

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The  
**InfoAg**  
Conference



**ENJOY InfoAg!!**



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