Introduction to Ag. Data Management Software

AgLeader SMS

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Agriculture Advancement 100 yrs
Technology Advancement

• Computing power available to us?
• Apollo Guidance Computer = 64 KB memory/0.043 MHz
• Samsung Galaxy S7 = 4 GB memory/2x1.59 GHz and 2x2.15 GHz → More than 2 Million times faster
Is this your tractor cab?
Precision Agriculture History

- Data Collection
  - GPS
  - Yield Monitoring
  - Spatial Measurements

Steering Control/Variable Rate
  - Light Bar
  - Auto-Steer
  - VRA Nutrient Application

Implement Control
  - Nozzle on/off
  - Planter Row Unit on/off
  - Implement Steering

Data/Control Refined
  - Variable Rate Seeding
  - Continuous Monitoring
  - Unmanned Aerial Vehicles
  - Data Collection and Management

Timeline:
- 1992
- 1997
- 2002
- 2007
- 2019
Technology Adoption Rates

B. Erickson, J. Lowenberg-DeBoer, and J. Bradford (2017)
Ag. Data of Interest

- Yield
- Soil data
  - Soil Fertility
  - Soil Type
  - Soil Water Holding Capacity
- As Applied Data
  - Fertilizer
  - Seed
  - Water – if irrigated
- Weather
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• SMS = Spatial Management Software
• Capabilities include (straight from website):
  • Soil sampling
  • Field tile plans
  • Soil survey and road overlays
  • Plan and document
    • Crop
    • Tillage
    • “Other activities”
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• Capabilities include (cont’d):
  • Planting
    • Seed selection based on historical yield
    • Reports and charts on planter performance
    • Precision data for government reporting
  • Application
    • Track application operations
    • Record applications (recordkeeping)
    • Create variable rate application maps and prescriptions
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• Capabilities include (cont’d x2):
  • Harvest
    • Analysis of harvest data
    • Discover yield trends
    • Harvest reports and charts w/query tools
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• First and foremost
  SMS = Database

• Hierarchy built in and designed for Ag. Data
  • Grower
  • Year
  • Farm
  • Field
  • Operation
  • Data values
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AgLeader SMS

• Data import
  • Many file type options
  • Many different data sources
  • Projections and mapping handled by the software
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Select One of the File Reading Options Below

Read File(s) from a Supported Field Display or Monitor
This option should be selected to read in a file(s) that were logged or created by or for a Field display (i.e. Ag Leader Insight, Case IH Pro 500, JohnDeere GS2, New Holland Intelliview Displays)

Sync/Import Projects from SMS Mobile
This option should be selected to sync or import SMS Mobile Projects and their data to your software

Import a File from a Generic Source
This option should be selected to import a file such as an image, generic Shape or MID/MIF file, or text based files such as Soil Lab Results or Management Item Lists

Download and Read Files from AgFiniti Cloud Service
This option should be selected to download and read files from the AgFiniti cloud service. AgFiniti provides access to files from field displays, files manually uploaded to the cloud, and other 3rd-party file services. This option requires an internet connection and an AgFiniti account.

Start Importing Generic Files...
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Select File Import Method

Select a File Format/Type to Import

- 3D Surface Files
- Management Items Files (Product Lists)
- MapInfo MID/MIF File
- Non-Spatial Files (Lab Results)
- Shape File
- Text Files
- TIGER Files

Images

Search for ALL File Formats Below
- Graphic Interchange Format (*.gif)
- JPEG (*.jpg; *.jpeg)
- JPEG 2000 (*.jp2)
- MrSID (*.sid)
- Portable Network Graphics (*.png)
- Tagged Image Format (*.tiff; *.tif)
- Windows Bitmap (*.bmp)
- Windows Metafile (*.wmf)

Import a File Using a Saved Template

Select File(s) to Import...
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• Soil Sampling Tutorial...
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• Generating Prescription Maps
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- Equation-based analysis

![Equation-based analysis interface](image-url)
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- Export prescriptions to displays
- Accommodates many machines and file types
- Sets GPS boundaries and application rates for machine controllers
- Look-ahead settings on the machine account for speed and adjust application rates accordingly
AgFiniti

• Online tool

• https://www.youtube.com/watch?v=Eh83lWoY308

• https://www.agfiniti.com
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