

Groundwork for Success

Optimizing Field Trial Sites

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Introduction

- Selecting field sites is a key responsibility for CROs.
- Site environment affects treatment clarity, data quality, and sponsor confidence.
- Focus: practical strategies for site selection, managing variability, and using modern tools.



Why Site Selection Matters

- Trial success starts with the ground.
- Proper site choice reduces noise and strengthens treatment separation.
- Good selection builds credibility with sponsors.



Uniformity & Gradient Management

Key Principles

- Soil uniformity: texture, fertility, organic matter
- Emergence and residue consistency across plots

Gradients to watch

- Slope/elevation, moisture, fertility, compaction, tile lines, historic boundaries

Signature Signs

D Lux Landscape & Tree Services

Schoelerman Contracting

130th Ave

130th Ave

155th Ave

400th St

Trimello Cemetery

400th St

400th St

400th St

Royal

The Great Hall of Royal

8373 ft



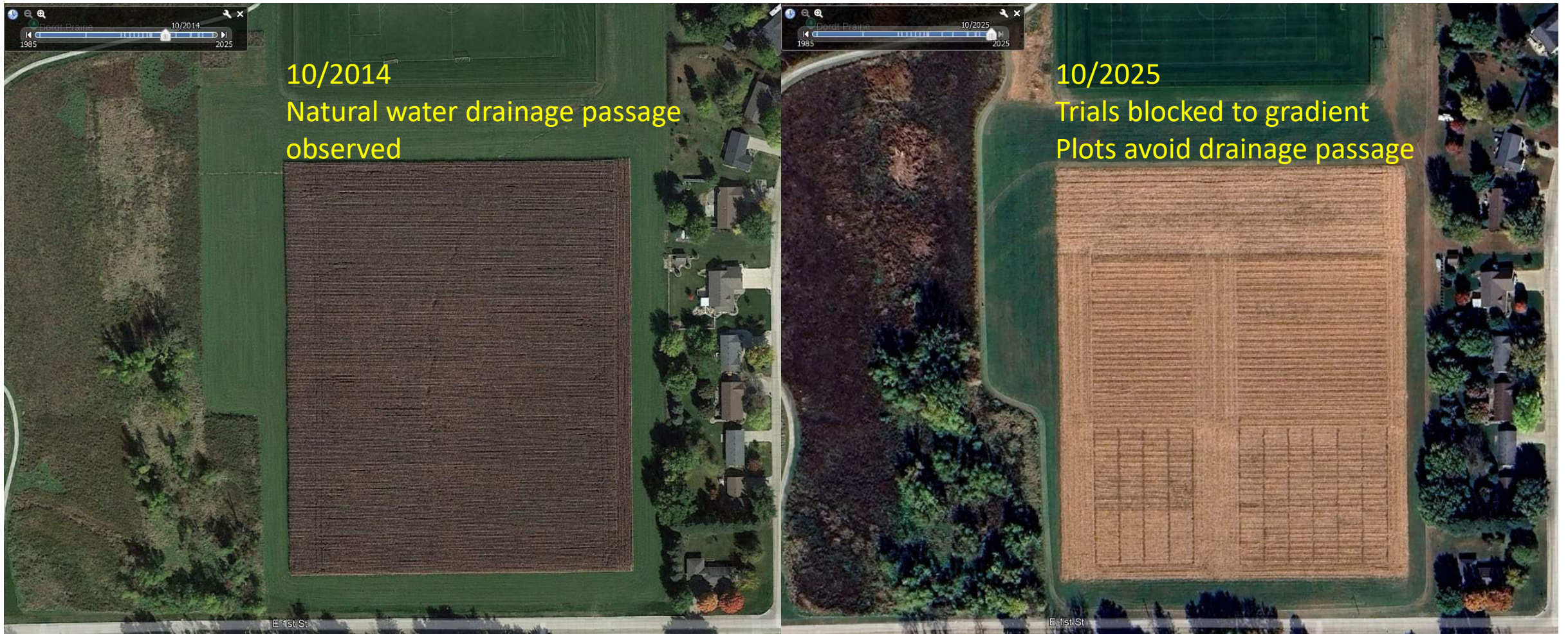
Uniformity & Gradient Management

Tools

- Google Earth Pro: historic imagery for wet spots, yield patterns.
- SoilWeb: soil texture, drainage, slope.
- Ag Leader SMS + LiDAR: micro-topography, subtle slopes.

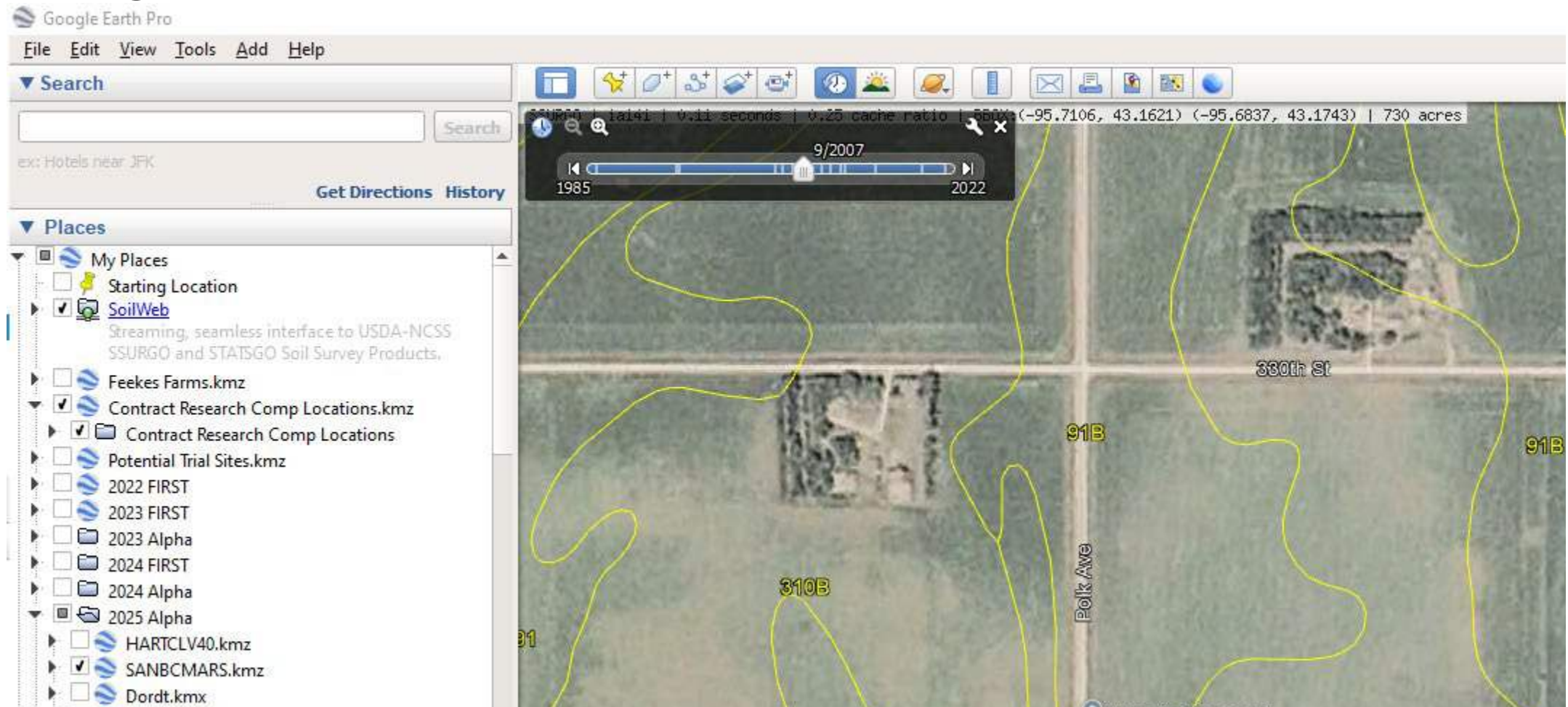
Uniformity & Gradient Management

- Google Earth Pro



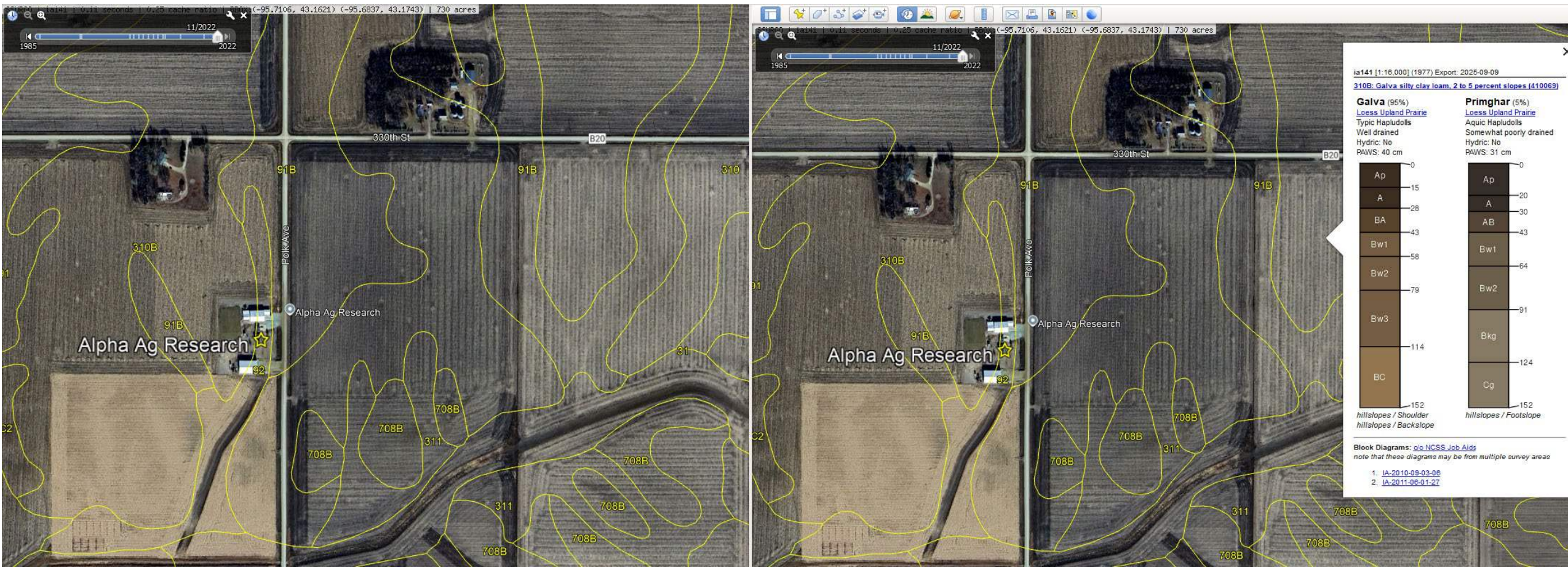
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- Google Earth Pro → SoilWeb



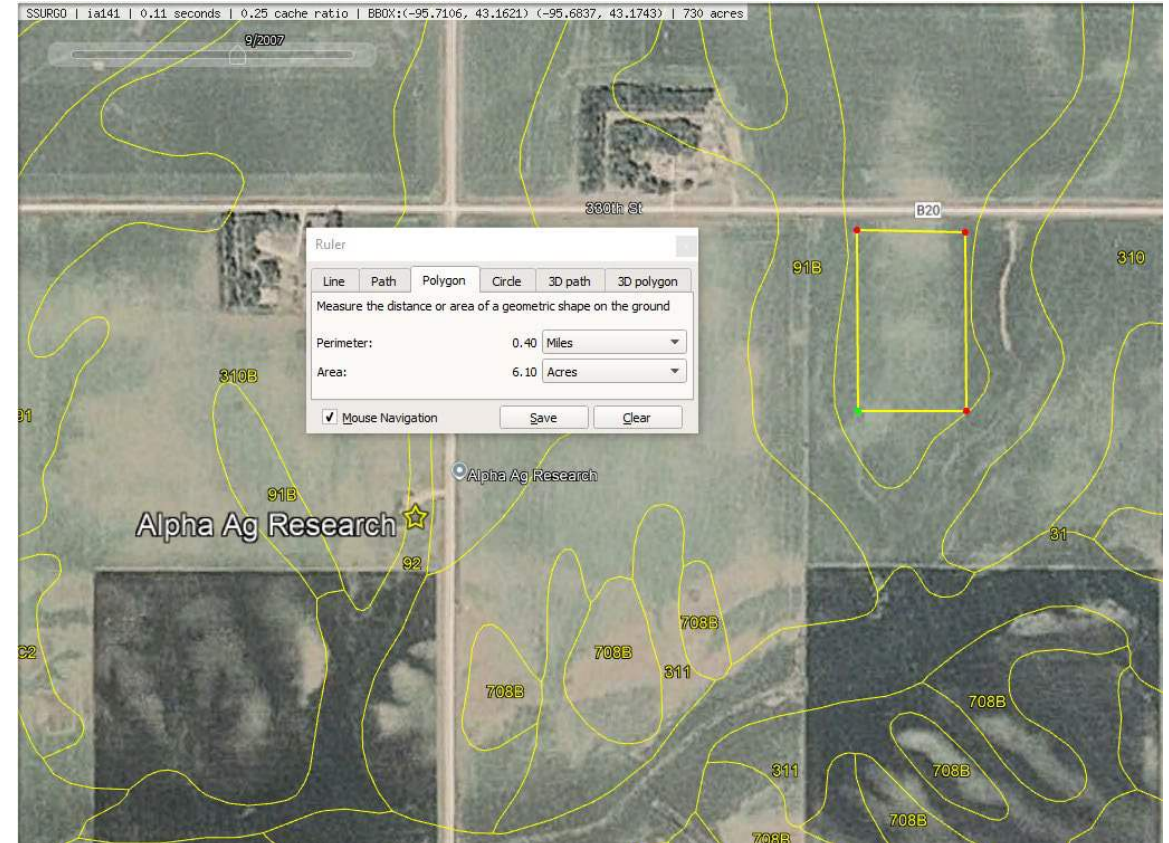
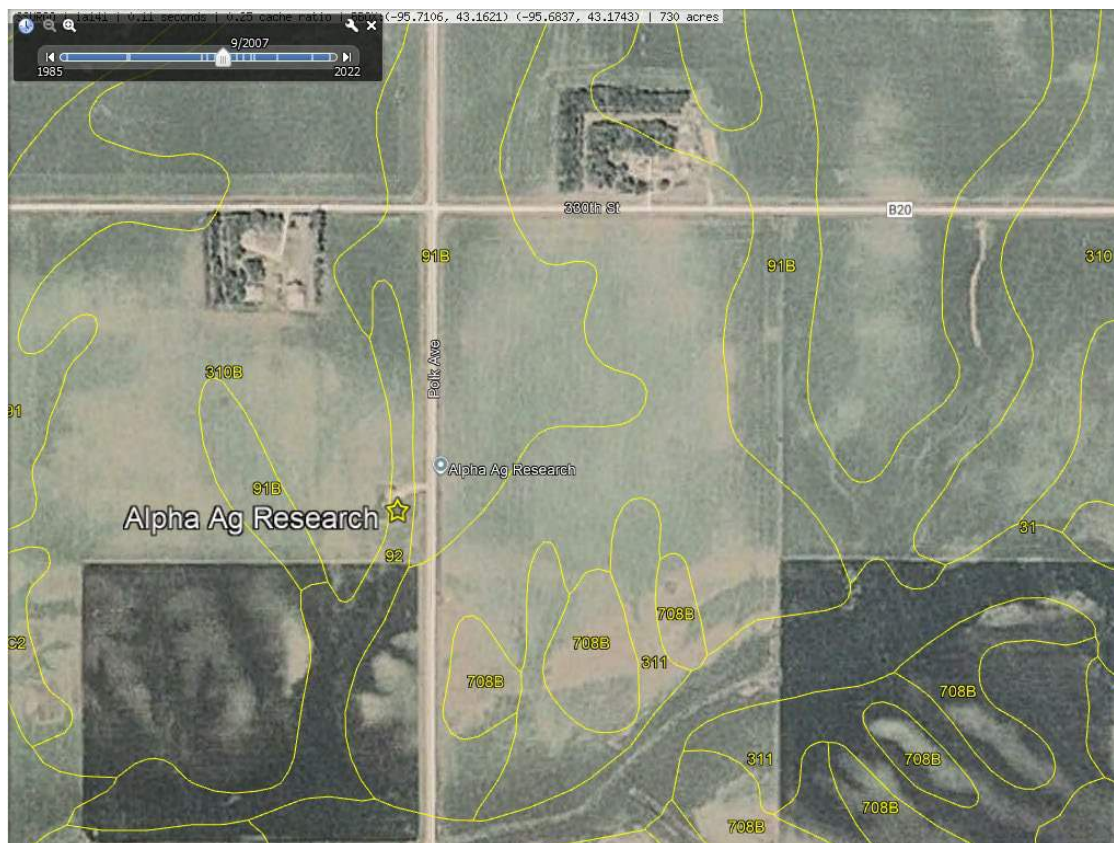
Uniformity & Gradient Management

- SoilWeb → Quick reference to soil drainage and slope



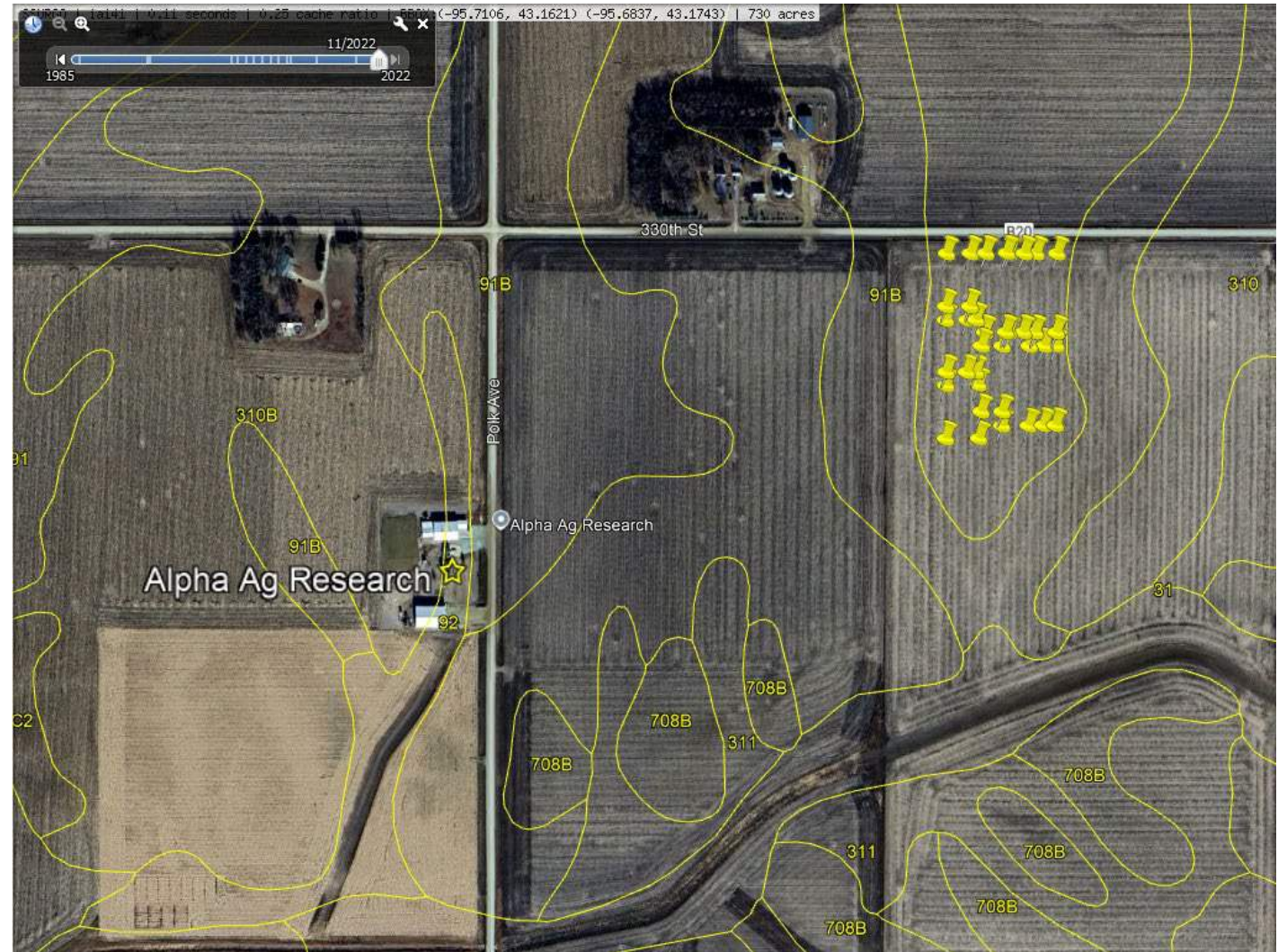
Uniformity & Gradient Management

- Use historical imagery to identify inconsistencies in unusual seasons
- Use the Polygon ruler to figure available acres for trial ground



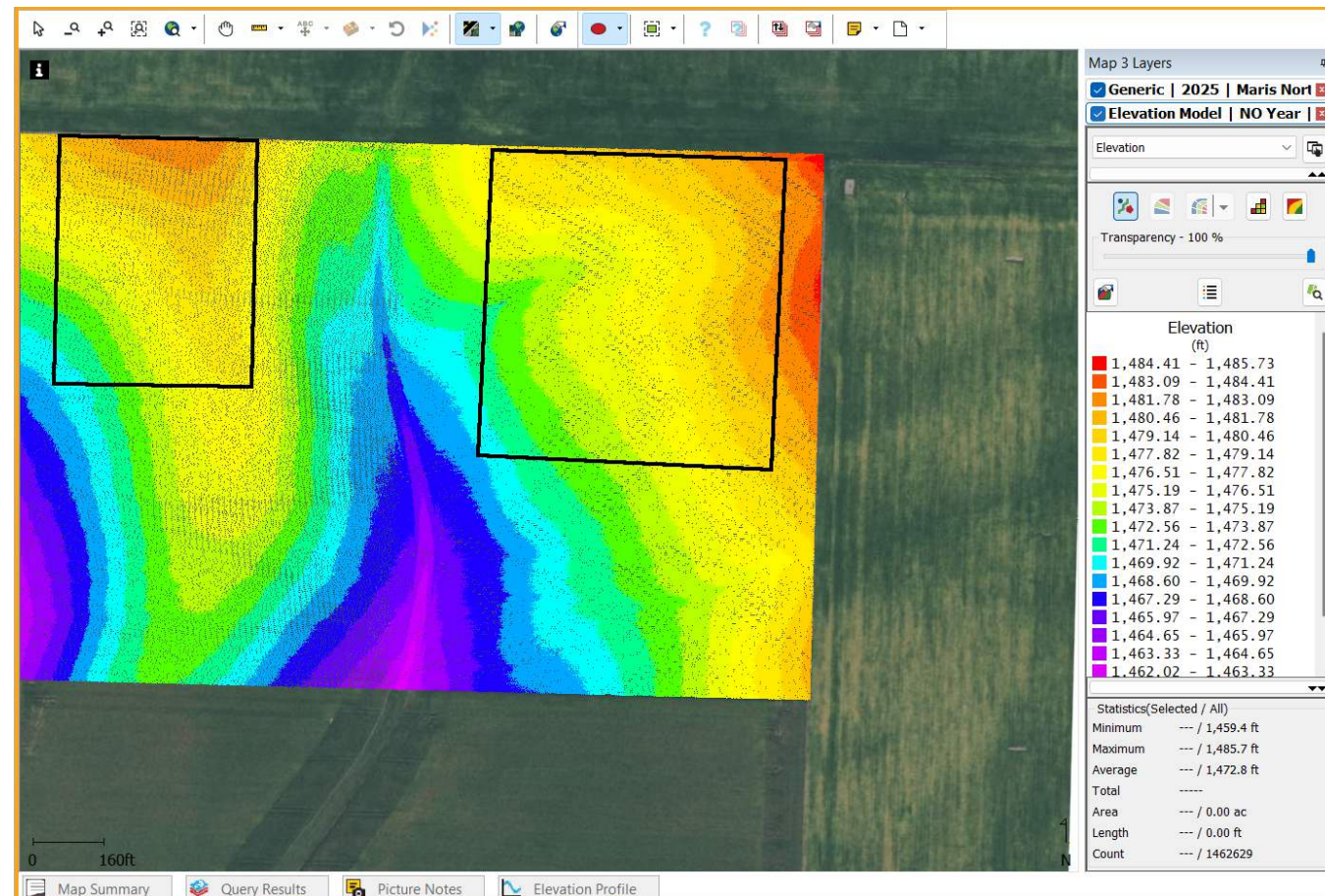
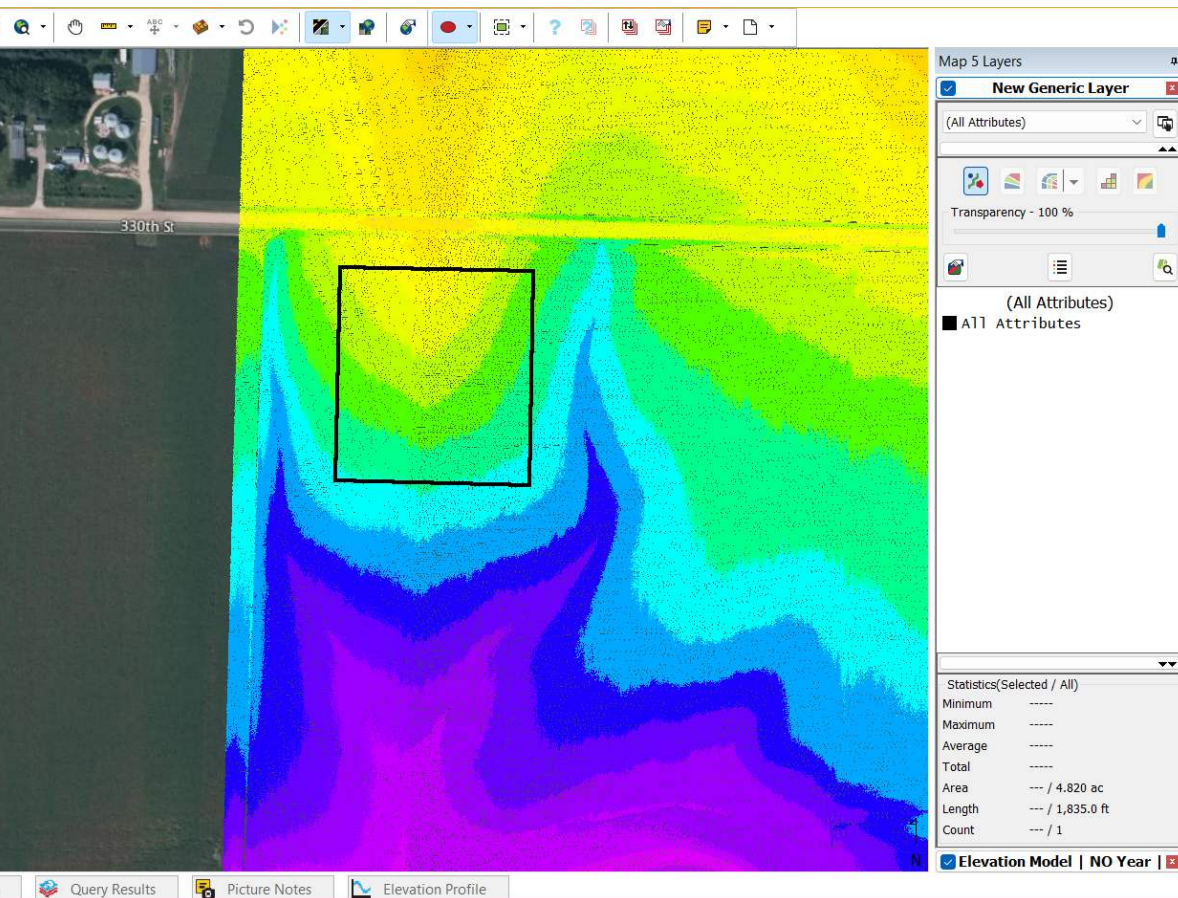
Uniformity & Gradient Management

- Import points from GPS



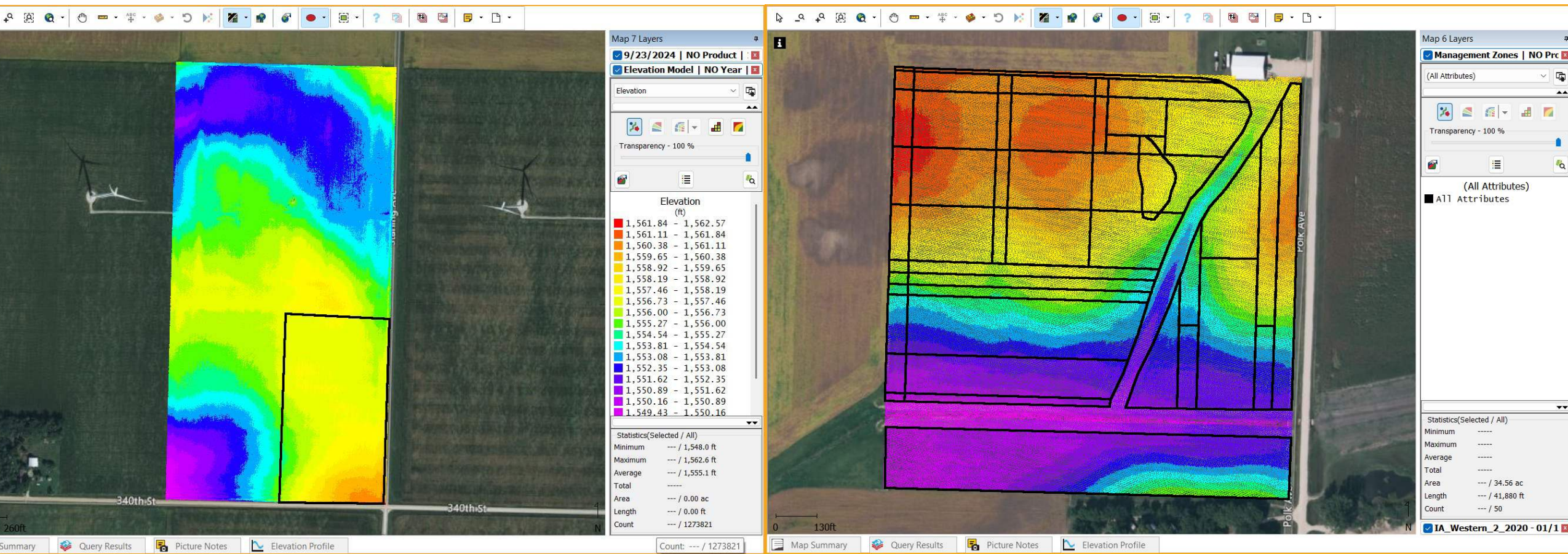
Uniformity & Gradient Management

- Ag Leader SMS + LiDAR: micro-topography, subtle slopes



Uniformity & Gradient Management

- Ag Leader SMS + LiDAR: micro-topography, subtle slopes



Uniformity & Gradient Management

Blocking Strategy

- Block treatments **across** gradients, not along them.
- Use design adjustments when unavoidable.



Field History & Aerial Data



- Ask about past crops, fertility, herbicide use, disease/pest history, compaction, drainage.

- Drone imagery from previous seasons reveals recent gradients, stress zones, compaction, and nutrient streaks.



Field History & Aerial Data

The screenshot displays the Solvi software interface for field analysis. The main view is an aerial photograph of a large agricultural field, with a road and farm buildings visible on the right side. The interface includes a sidebar on the left with the following sections:

- solvi** logo and navigation icons for **IMAGERY**, **ANALYSIS**, and **EXPORT**.
- DETAILS** section with a settings gear icon and the following information:
 - Farm: BOBO-EAST-Summit4
 - Field: BOBO-EAST-SUMMIT4
 - Crop: Soy
 - Survey date: 8 SEP 2025
 - Altitude: 326 ft
 - Camera: DJI M3M
 - Images: 474
 - Resolution: 1.06 in/px
- ORTHOMOSAIC** section with a settings gear icon and a toggle switch.
- PLANT FOCUS** section with a toggle switch.
- ELEVATION** section with a toggle switch.
- FIELD BOUNDARY** section with a toggle switch.
- ANNOTATE AND MEASURE** section with a toggle switch.

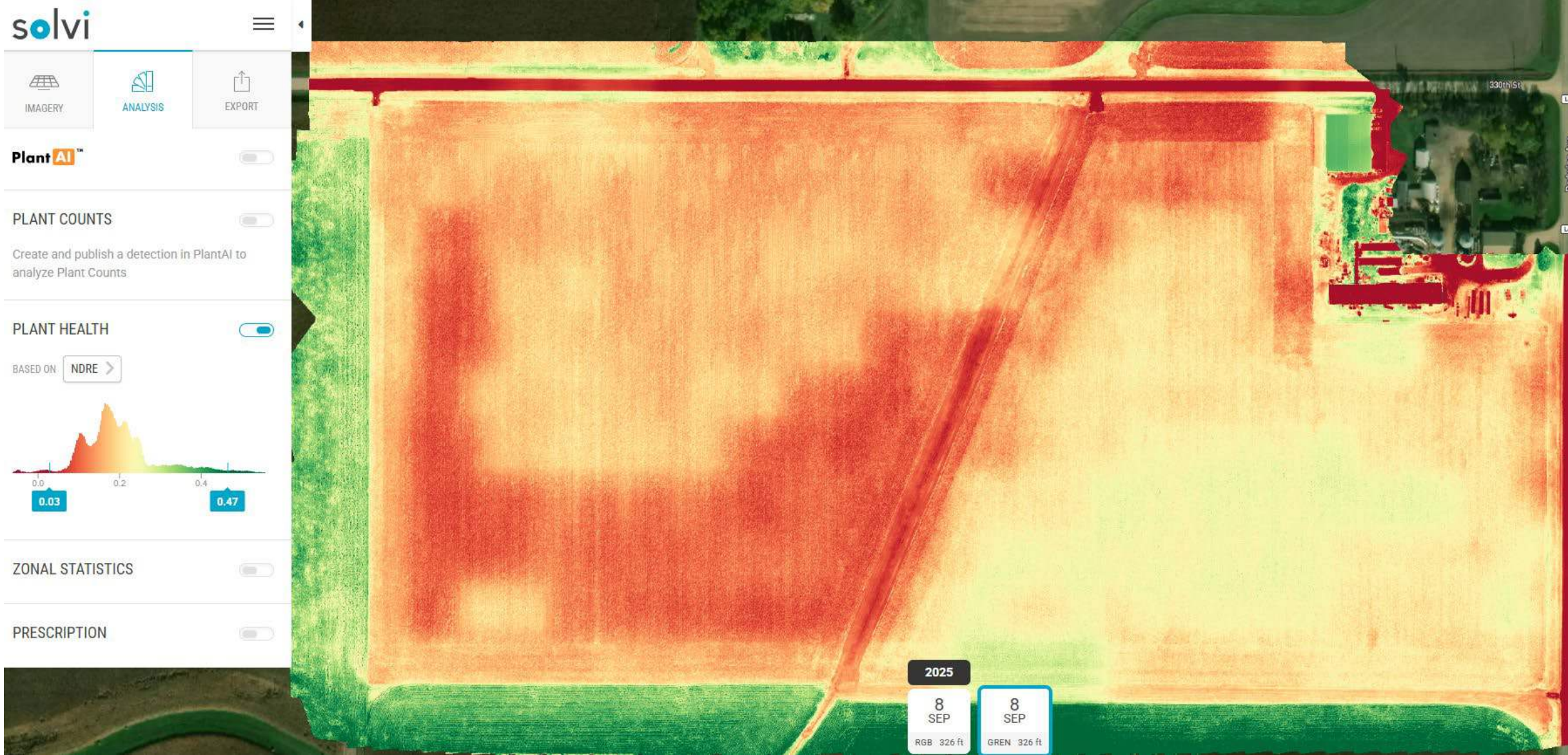
At the bottom of the interface, there are two date selection buttons for **2025**, both set to **8 SEP**. Below these buttons, the resolution for each date is shown: **RGB 326 ft** and **GREN 326 ft**.

Field History & Aerial Data

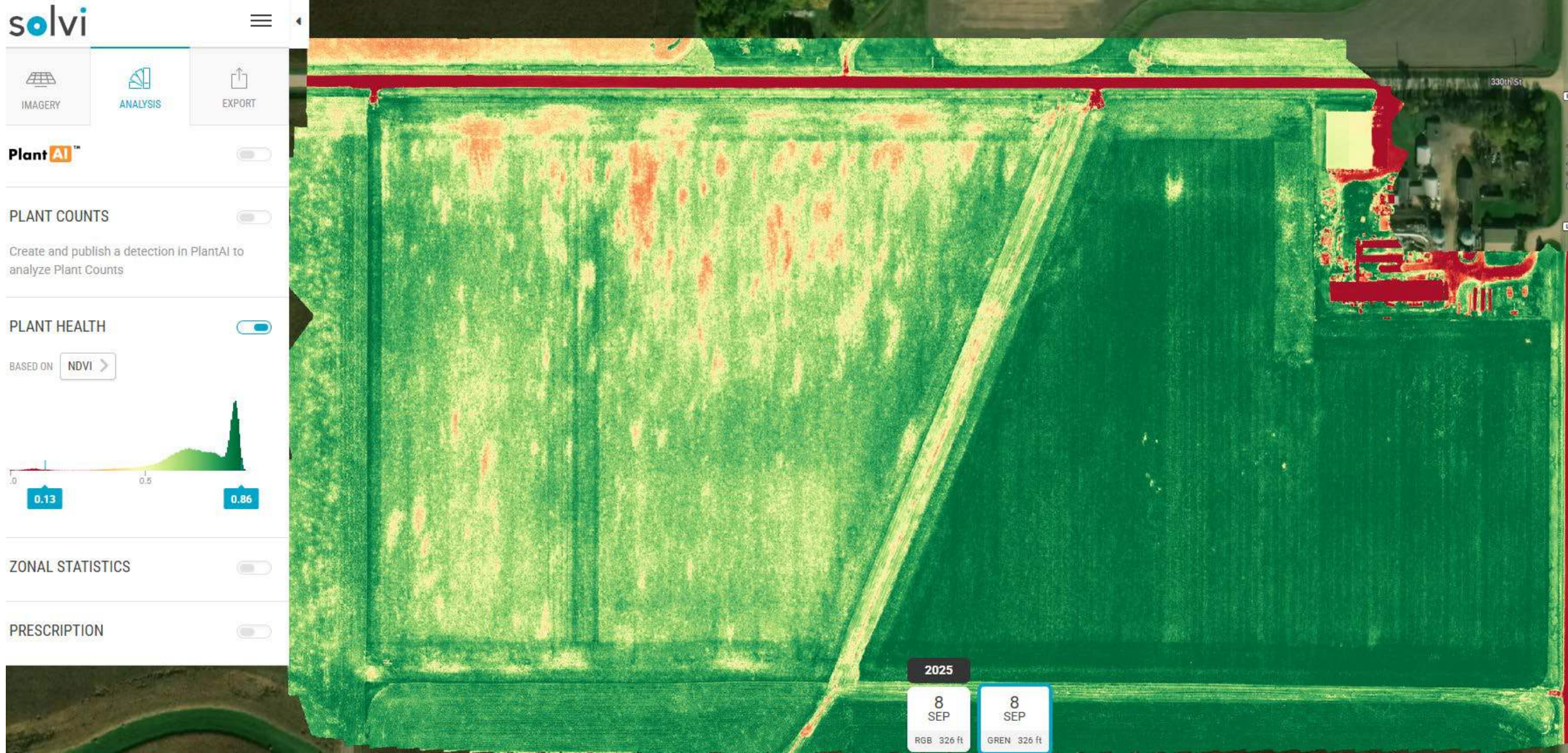
The screenshot displays the Solvi software interface for field data analysis. The main view is an aerial photograph of a large agricultural field, with a portion of the field highlighted in a semi-transparent purple color. A white road or path runs horizontally across the top of the field. In the bottom right corner, there are two date selection buttons for '2025', both set to '8 SEP'. Below these buttons, the resolution for each is shown: 'RGB 326 ft' and 'GREN 326 ft'. The left sidebar contains several sections:

- solvi** logo and navigation icons for IMAGERY, ANALYSIS, and EXPORT.
- DETAILS** section with a toggle switch (turned on) and a gear icon for settings. It lists:
 - Farm: BOBO-EAST-Summit4
 - Field: BOBO-EAST-SUMMIT4
 - Crop: Soy
 - Survey date: 8 SEP 2025
 - Altitude: 326 ft
 - Camera: DJI M3M
 - Images: 474
 - Resolution: 1.8 in/px
 - Calibration: DLS
- ORTHOMOSAIC** section with a toggle switch (turned on) and a gear icon.
- PLANT FOCUS** section with a toggle switch (turned off).
- ELEVATION** section with a toggle switch (turned off).
- FIELD BOUNDARY** section with a toggle switch (turned off).
- ANNOTATE AND MEASURE** section with a toggle switch (turned off).

Field History & Aerial Data



Field History & Aerial Data



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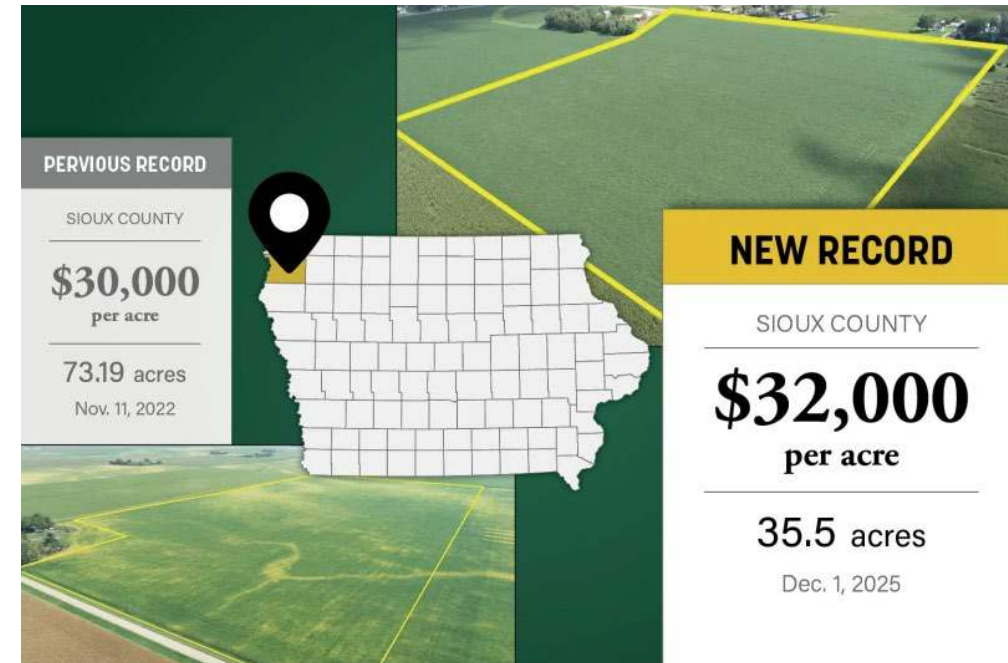
Soil Characteristics

- Texture, organic matter, pH, drainage, slope, and compaction zones all impact treatment response.



Owning vs Renting Trial Ground

- **Owning:** full control, consistent management; limitations include cost



- **Renting:** access to diverse soils, flexibility; requires strong farmer relationships.

Networking with Farmers & Agronomists

- Farmers and local agronomists know fields with specific pest, disease, or management histories.
- Networking builds access to high-quality trial ground tailored to sponsor needs.
- Strong relationships demonstrate CRO effort and enhance trust with sponsors.



Final Takeaway

- Successful trials depend on careful site selection, understanding field variability, and using modern tools (LiDAR, SoilWeb, aerial/drone imagery).
- Strong farmer and agronomist relationships are essential for finding high-quality, representative trial sites.
- Thoughtful preparation ensures clean, reliable results for sponsors and supports CRO credibility.