

Nutrient Deficiency

Nitrogen Deficiency Detection Leads to Equipment Upgrade to Prevent Future Yield Loss

Key Observations:

Problem Detection:

AGMRI identified nitrogen deficiency strips caused by a clogged knife across multiple fields.

Quantified Impact:

Analysis revealed potential yield loss up to 15 bu/ac, validating the severity of the issue.

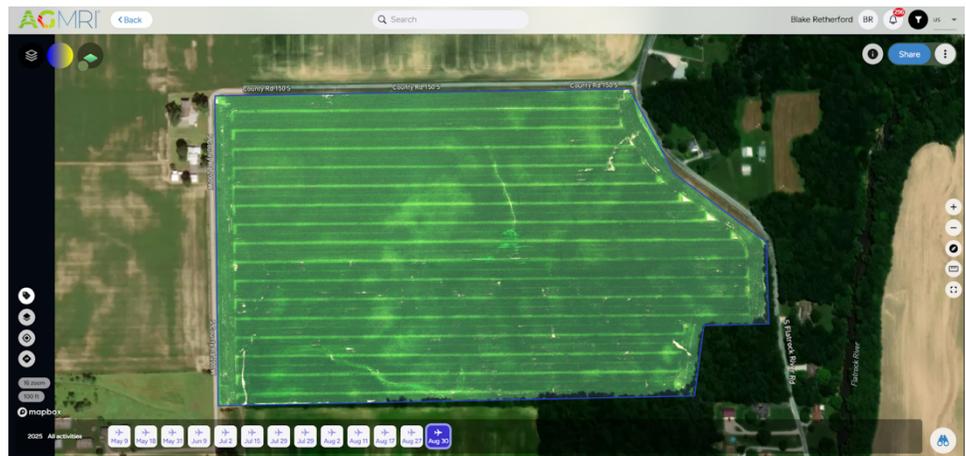
Actionable Change:

Insights led to the decision to invest in new equipment, preventing future application errors.

Background:

An Indiana grower had experienced repeated issues with his sidedress toolbar in past seasons but had not previously adjusted as a result. This season, he completed all sidedress applications on his corn before discovering a plugged knife while cleaning the equipment.

The timing of the discovery meant the nitrogen application had already been completed, leaving potential issues undiscovered during the critical sidedress period. Historically, the grower hadn't had a way to easily identify problems like this in-season before yield impacts occurred.



Challenge:

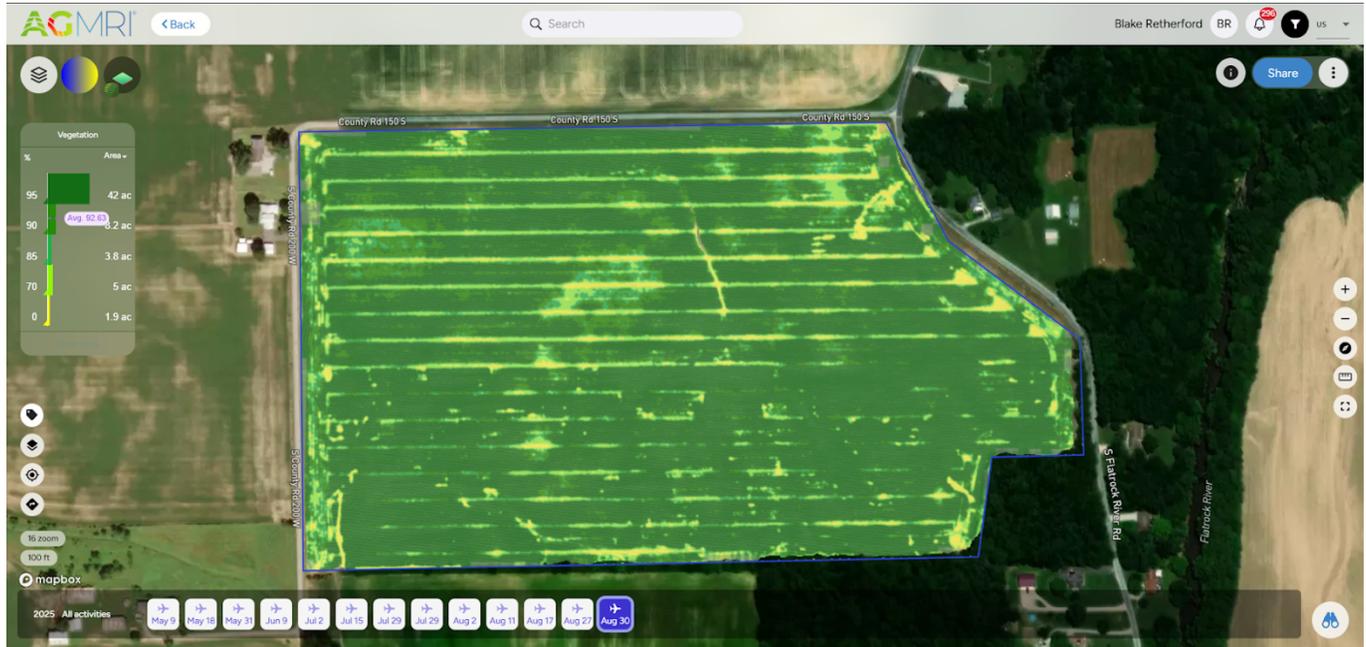
The plugged knife on the sidedress toolbar caused **nitrogen deficiencies in 3–4 rows every 35 feet across all corn fields**. These deficiencies were not immediately visible and would have likely persisted unnoticed until late in the season or at harvest.

Left unresolved, the nitrogen gap in these strips could lead to a significant **yield drag of up to 15 bu/acre**, reducing profitability across a large number of acres. The grower needed a way to identify and quantify the extent of the issue after the fact to inform future management and equipment decisions.



Nutrient Deficiency

Nitrogen Deficiency Detection Leads to Equipment Upgrade to Prevent Future Yield Loss



Solution:

Using AGMRI, the nitrogen-deficient rows were clearly detected across the affected fields. The imagery revealed consistent striping patterns corresponding to the plugged knife's impact, validating the cause of the deficiency.

Drawing from similar documented cases, the agronomic team estimated the potential yield loss tied to the issue, providing the grower with actionable data. This insight gave him the clarity to address the root cause and make equipment improvements.

Results:

Armed with this data, the grower decided to **purchase a new sidedress toolbar** to eliminate recurring application problems. By upgrading his equipment, he aims to prevent similar nitrogen issues in future seasons, ensuring more uniform applications and reducing avoidable yield loss.

