

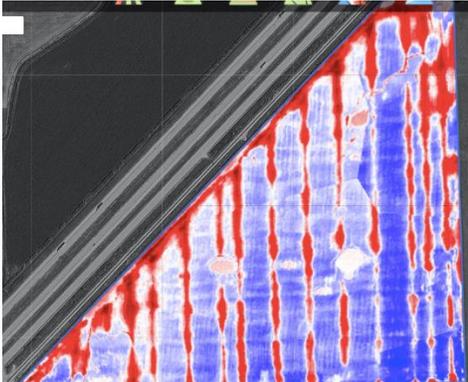
Thermal imagery provides an assessment of soil or crop temperature, showing the average temperature of the field as well as a legend with temperatures in specific areas of the field. Thermal imagery can highlight issues before they are visible in other lenses or the field.

Use Cases

- Identify tile lines, residue, and compaction issues on bare soil.
- Find nutrient deficiencies in fields with V4 or later emergence.
- Pinpoint areas of disease a few weeks before tassel
- Highlight uneven drydown as the crop starts to turn.

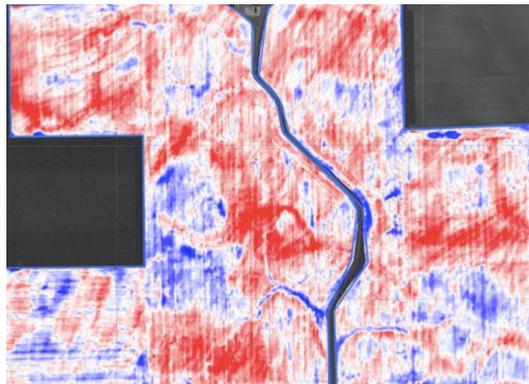
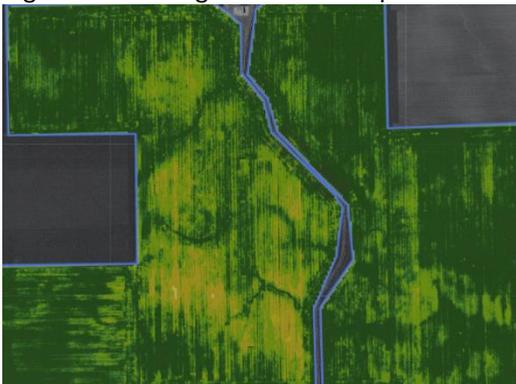
Tile Lines

Working tile lines will appear hotter than the rest of the field. Look for lines of heat in a field to identify them.



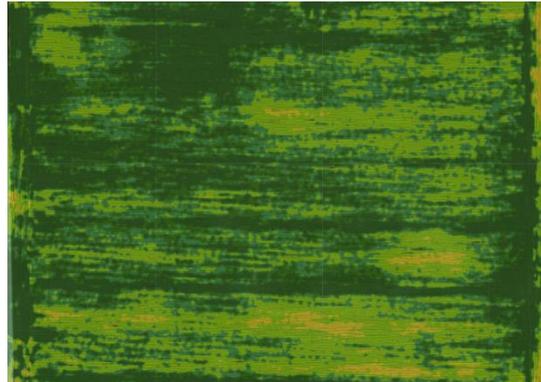
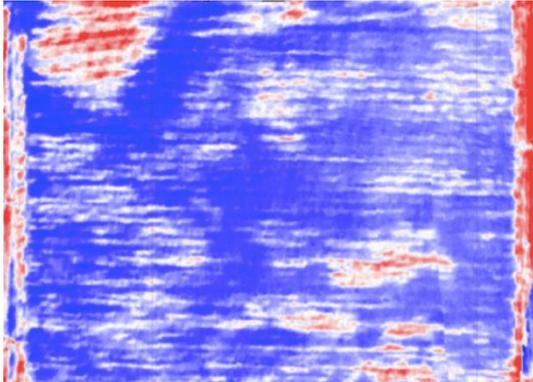
Residue

Residue in an amount that can affect plant health will typically show up as cooler streaks with major variance between hot and cold at the angle harvested. Residue in a field without large amounts of variance is unlikely to be significant enough to affect crop health.



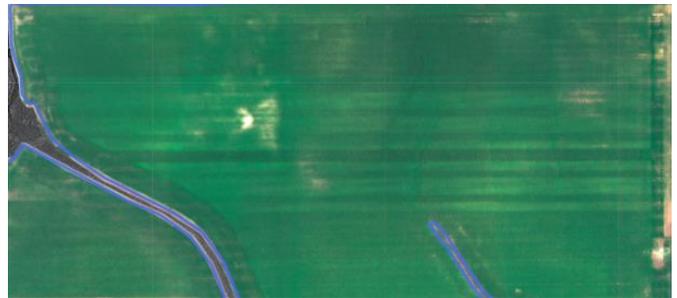
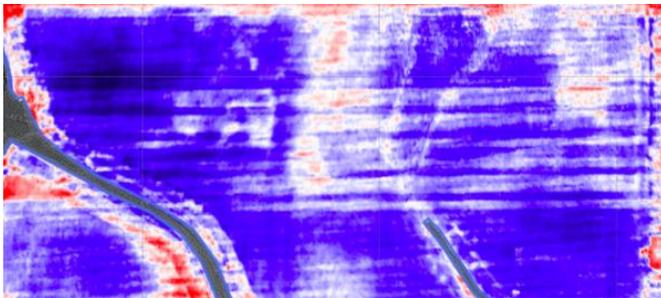
Compaction

Large amounts of variance at the angle of tillage likely indicate compaction issues.



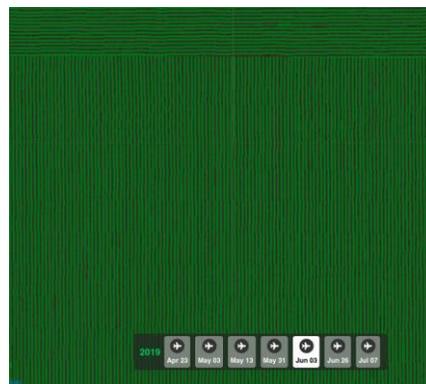
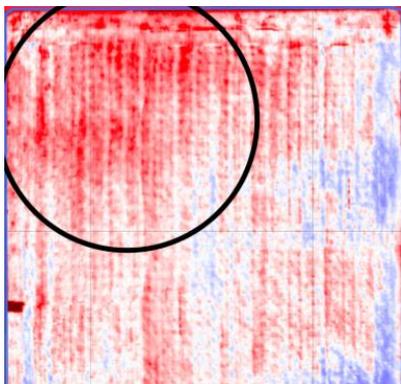
Nutrient Deficiencies

Look for solid swaths of heat following the angle at which nitrogen was applied. Nutrient issues will show up in thermal 2-4 weeks before yellowing is visible in RGB. The thermal image below is of V4 corn showing deficiencies two weeks before the RGB image at right.



Disease

High thermal values can be an early warning sign of disease—often appearing in thermal imagery before visible to the naked eye or even via NDVI. If elevated temperatures in a field at or near canopy with high emergence cannot be attributed to soil type or machine patterns, there is a high probability of disease.



Drydown

Thermal can indicate which hybrids and areas in fields will dry down soonest several weeks before harvest.

