

SUNY Morrisville Hemp for Grain Fertility Trials

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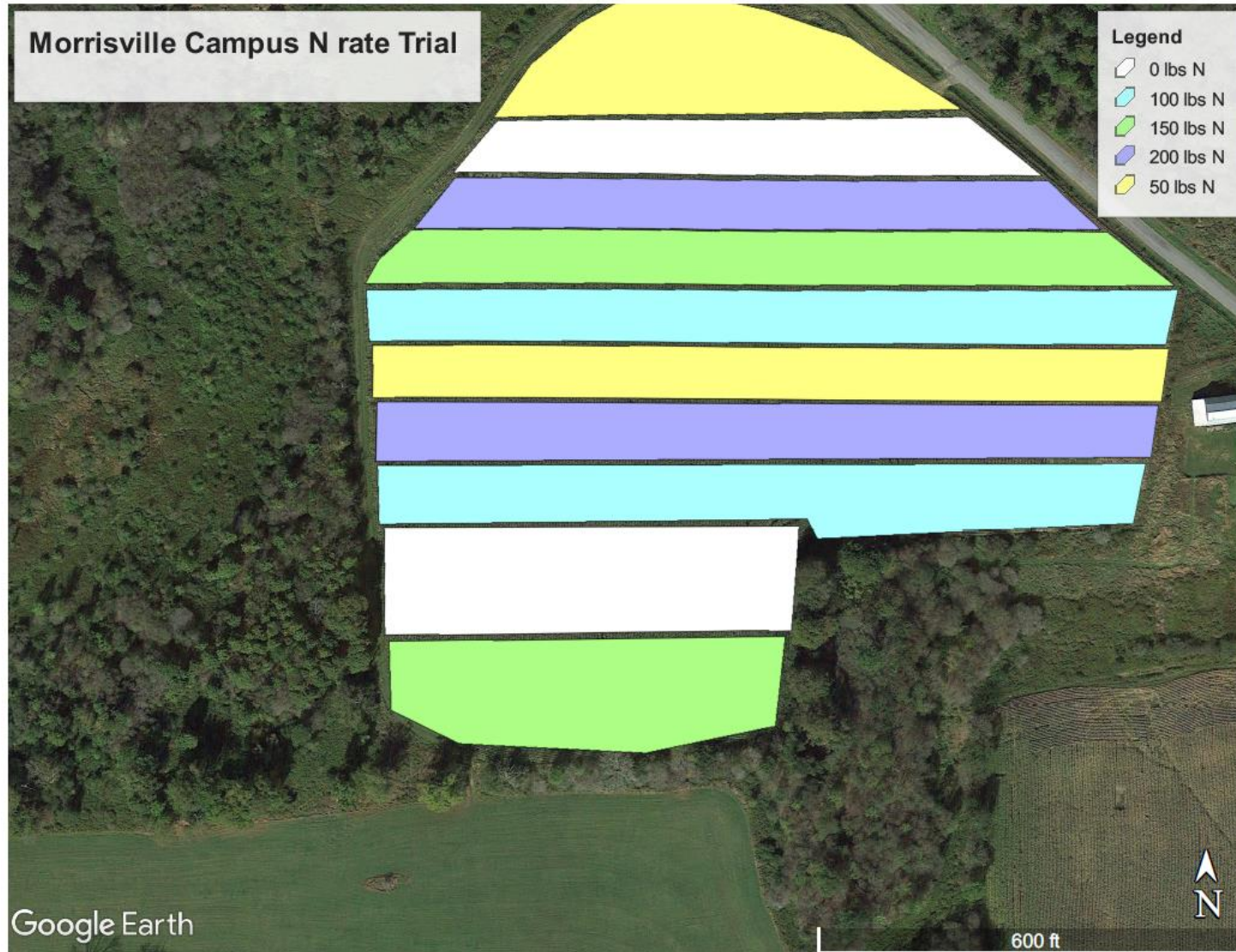
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Considerations?

- ▶ What equipment is readily available?
 - ▶ What production practices do I want to use
 - ▶ Who is going to buy my harvest
-
- ▶ Did we mention who is going to buy the harvested components?

2018 Grain Trials

► Rain, wind, and poor harvest

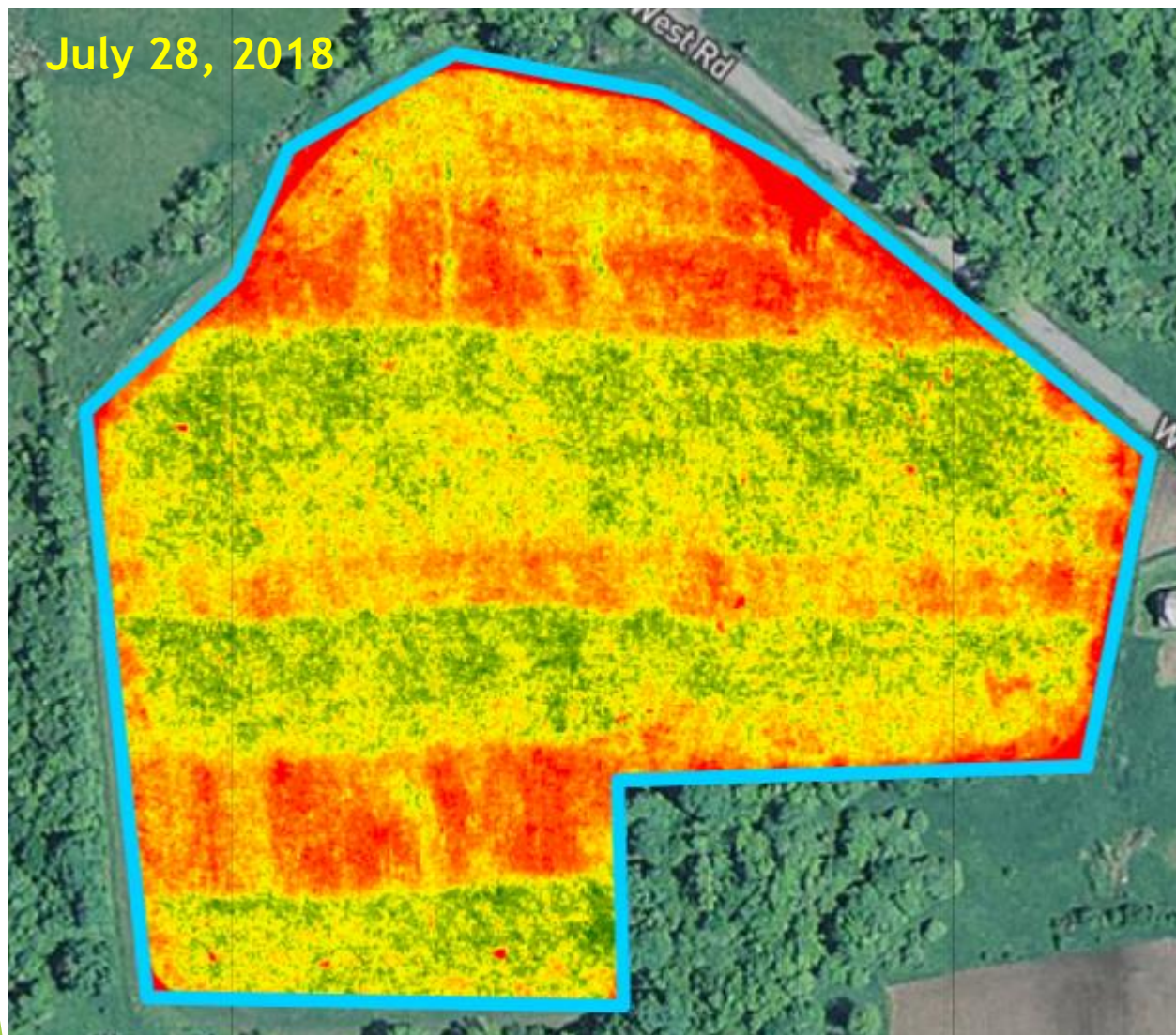


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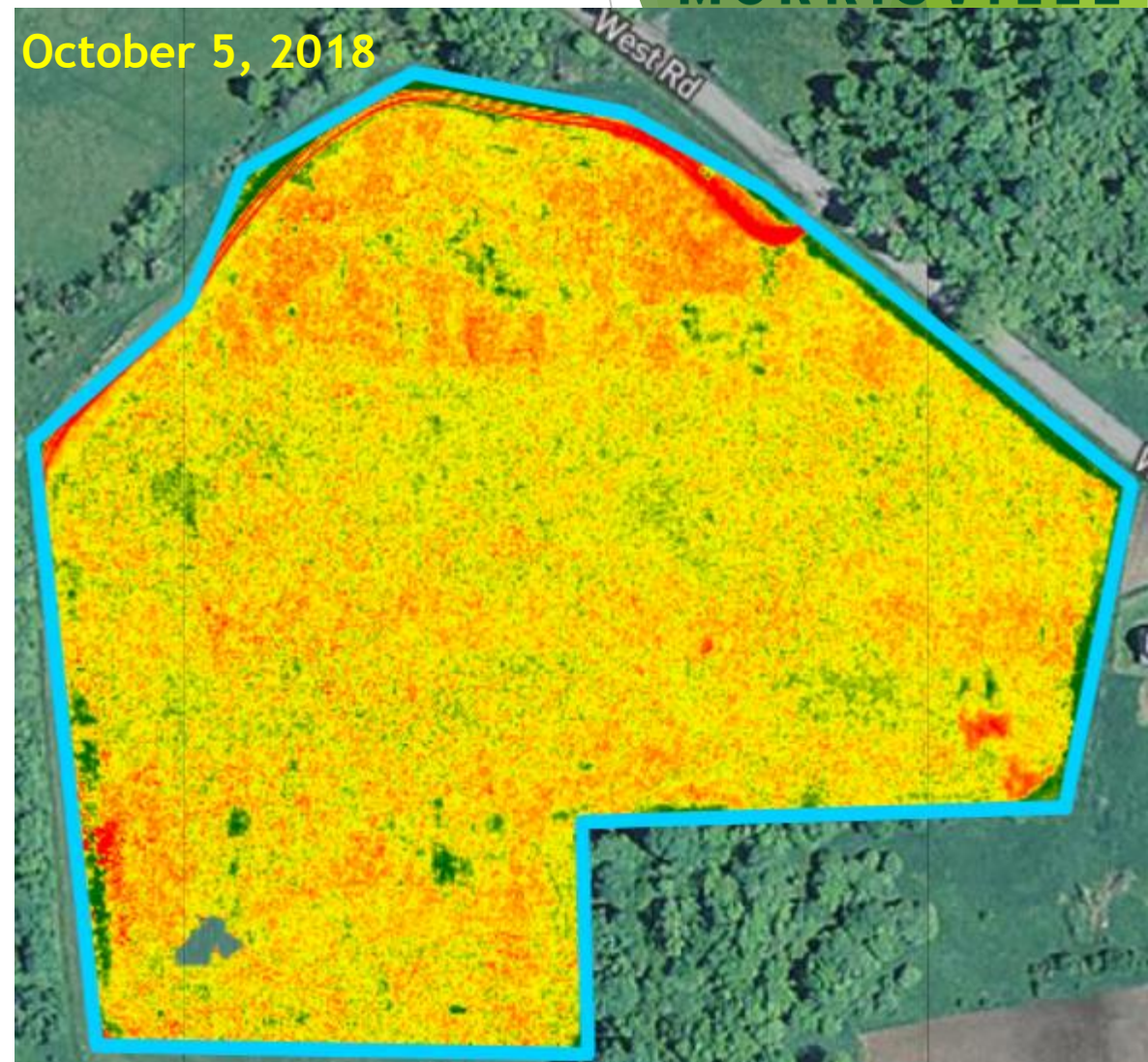


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July 28, 2018



October 5, 2018

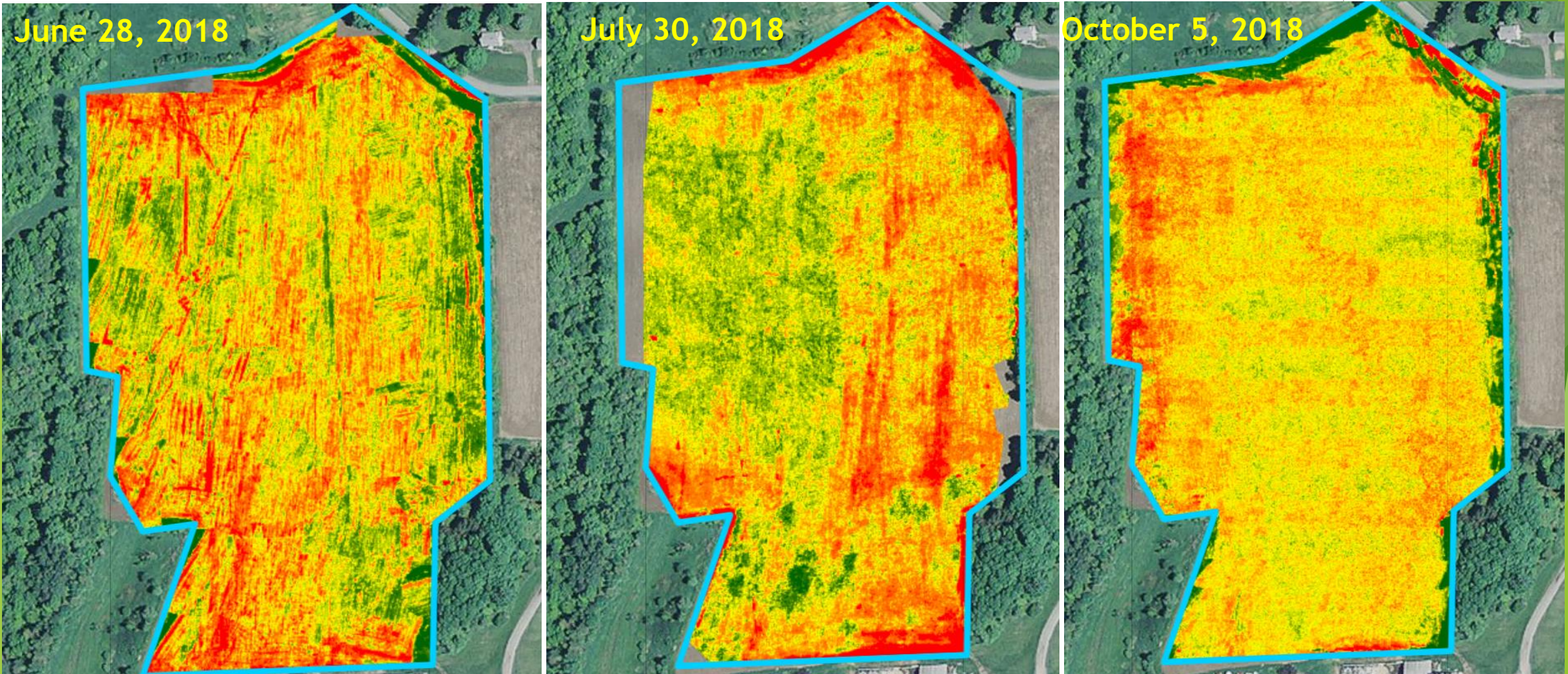


Observing Varietal Differences - Anka vs Felina 32



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Wind Storm mid September 2018



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2018 Lessons Learned

- ▶ Mother Nature always wins
- ▶ NDVI imaging can show us a lot but it isn't clear if the timing is right for timing of fertility applications
- ▶ Proper fertility is critical to early stage growth and weed competitiveness
- ▶ Harvest timing is critical - you cannot wait for all of the grain to dry

2019 Grain Research

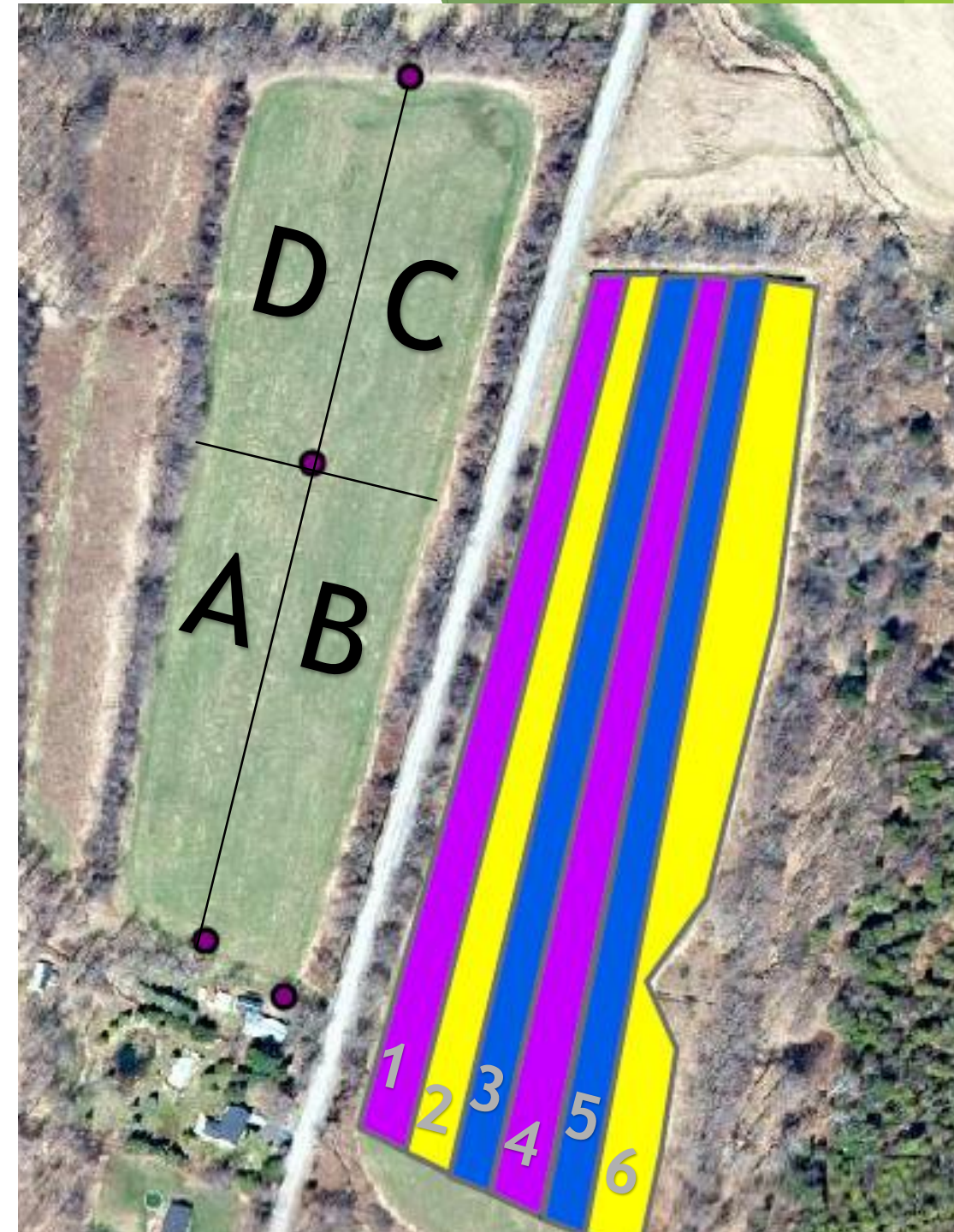


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- ▶ Nitrogen rate trials were expanded to include manure + inorganic nitrogen as well as previous years inorganic only nitrogen trials
- ▶ Two varieties were plated, Altair and Ferimon
- ▶ Planting dates were later than desired (June 15 - 20th)
- ▶ Crop performance through the growing season was monitored via ground measurements as well as via drone NDVI imaging

Grain trials

- ▶ A Ferimon Manure + topdress
- ▶ B Altair Manure + topdress
- ▶ C Altair Manure only
- ▶ D Ferimon Manure only
- ▶ 1-6
 - ▶ Purple 125 lbs N
 - ▶ Yellow 75 lbs N
 - ▶ Blue 150 lbs N



Emergence and Cover



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Surface crusting

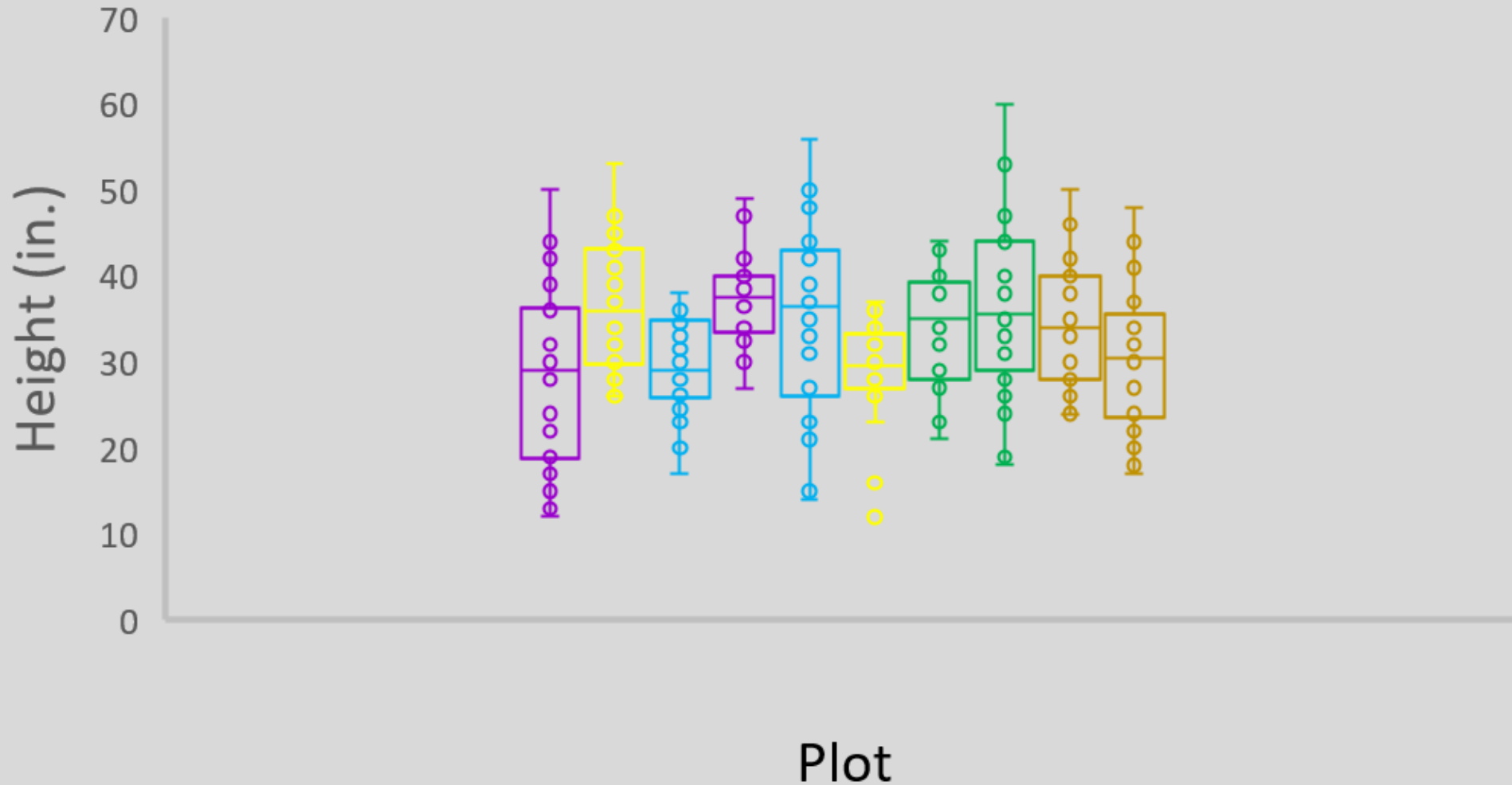


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HEMP PLANT HEIGHT JULY 23, 2019

1 2 3 4 5 6 A B C D



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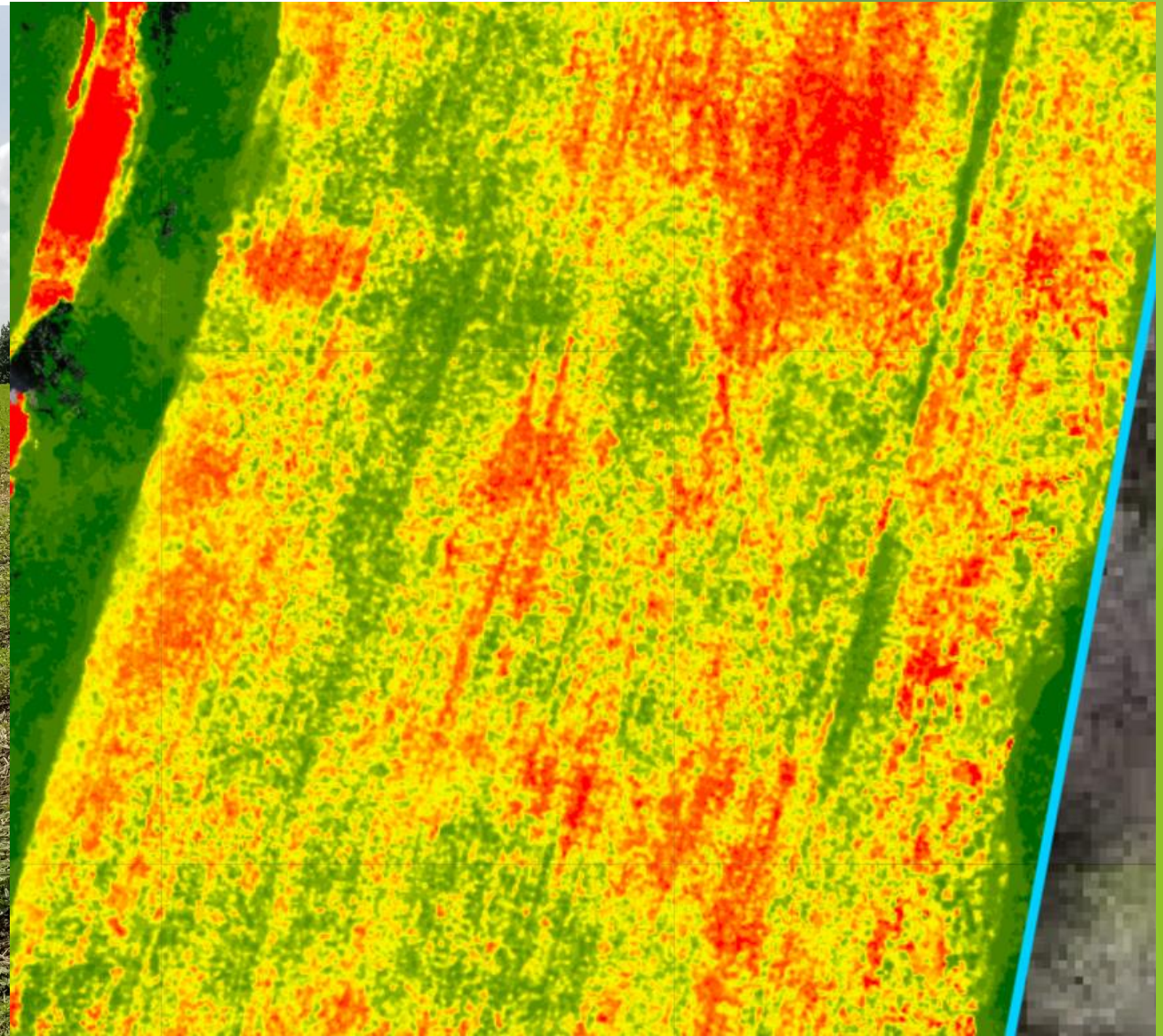
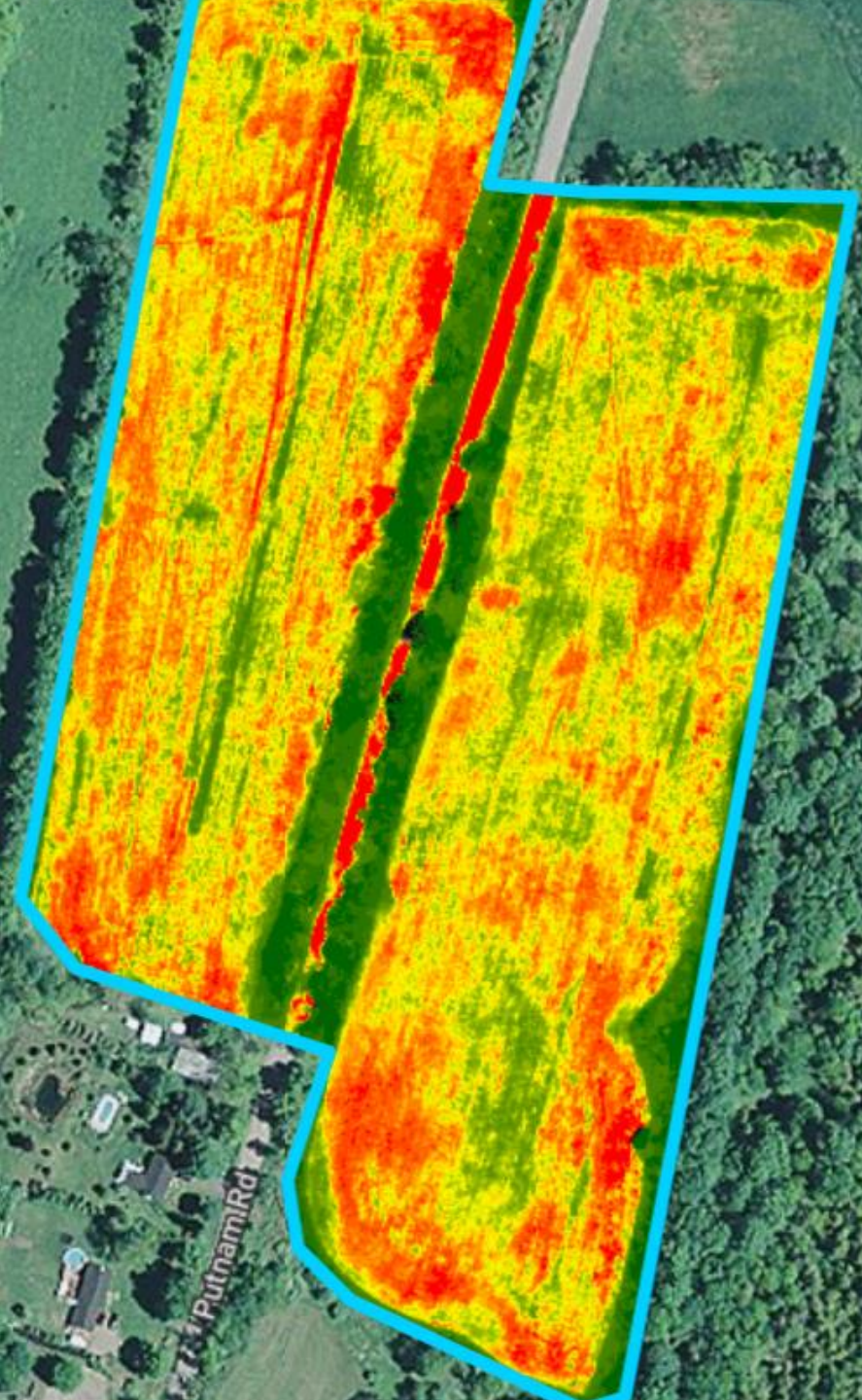
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NDVI

JULY 8

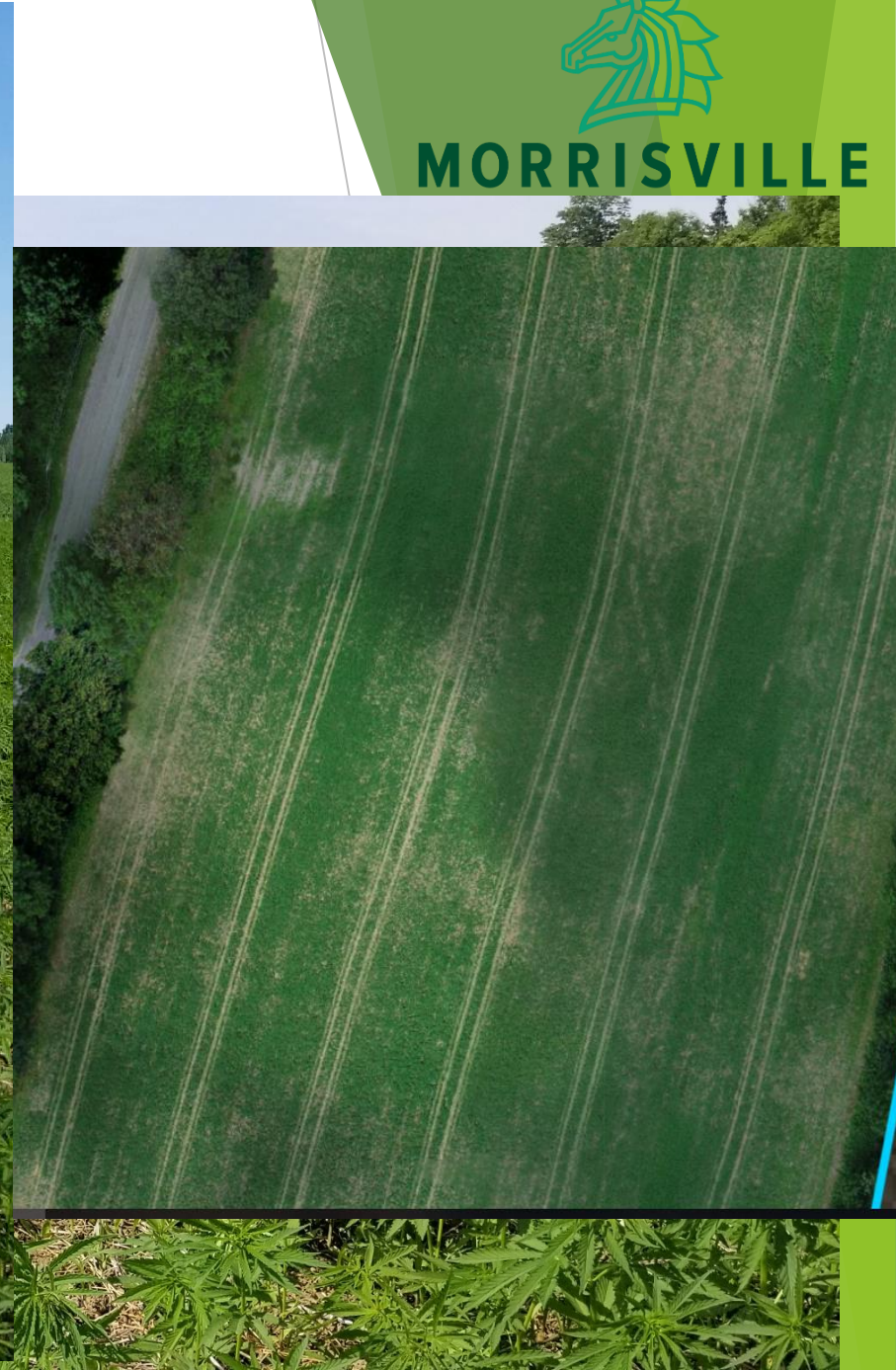


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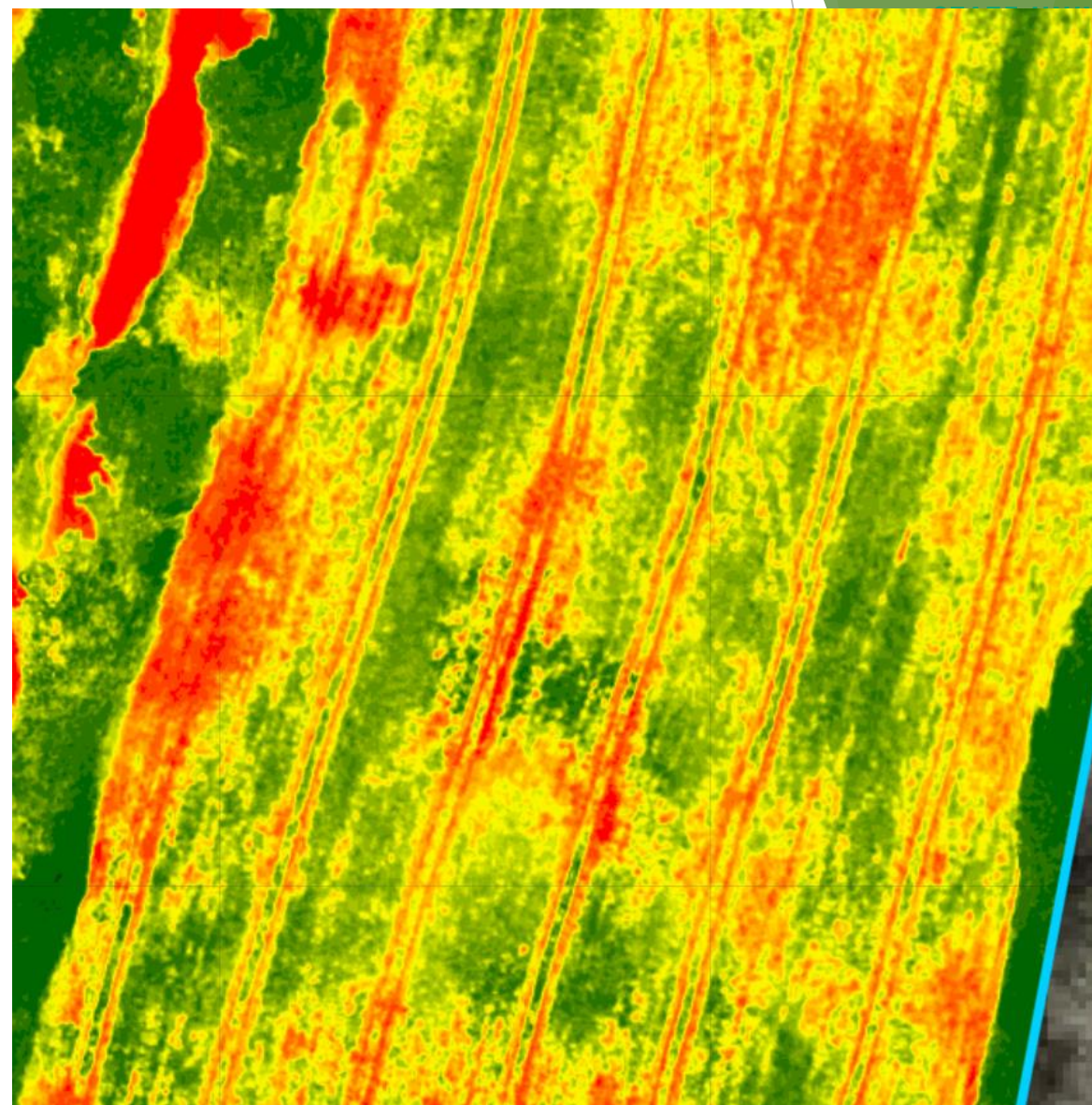
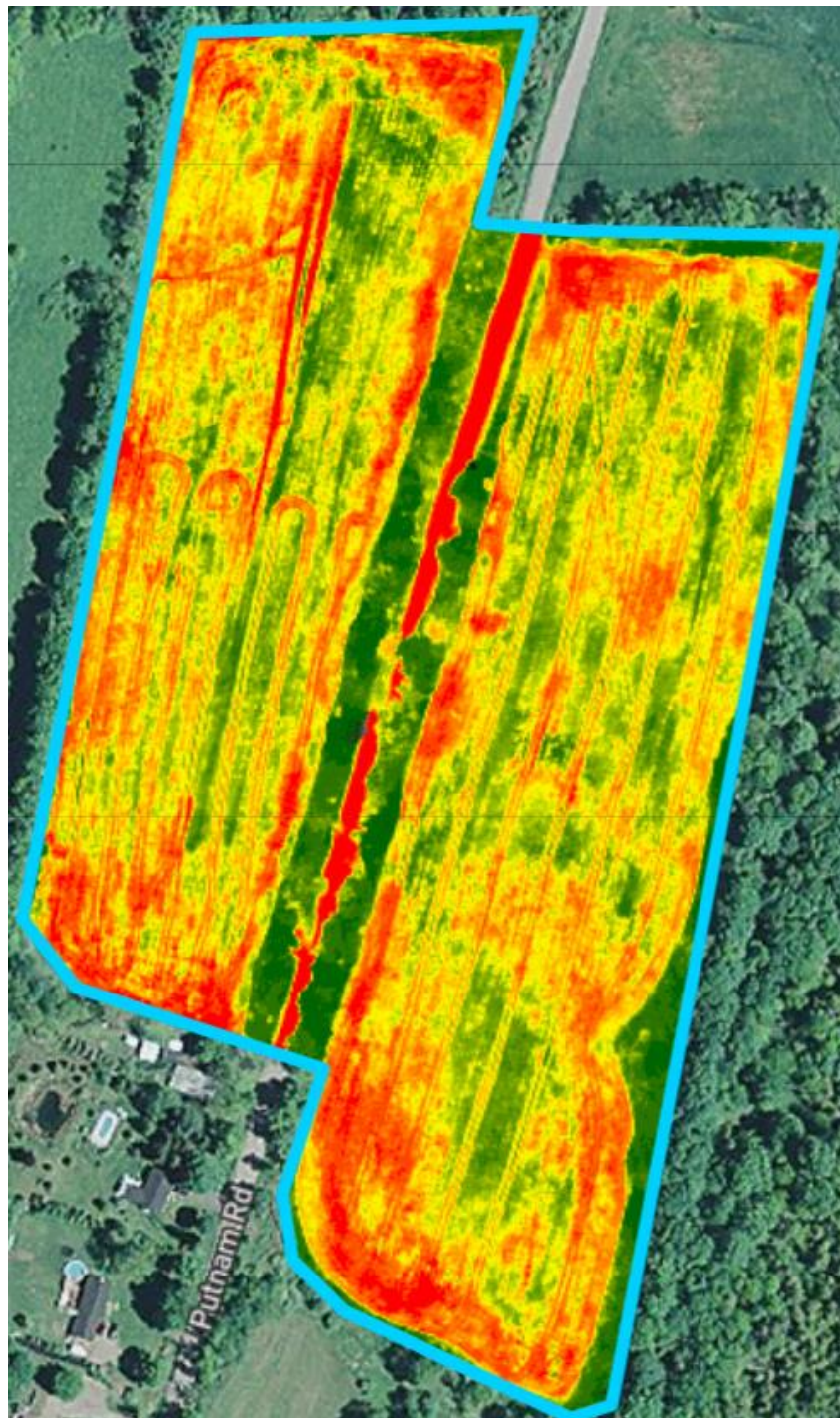
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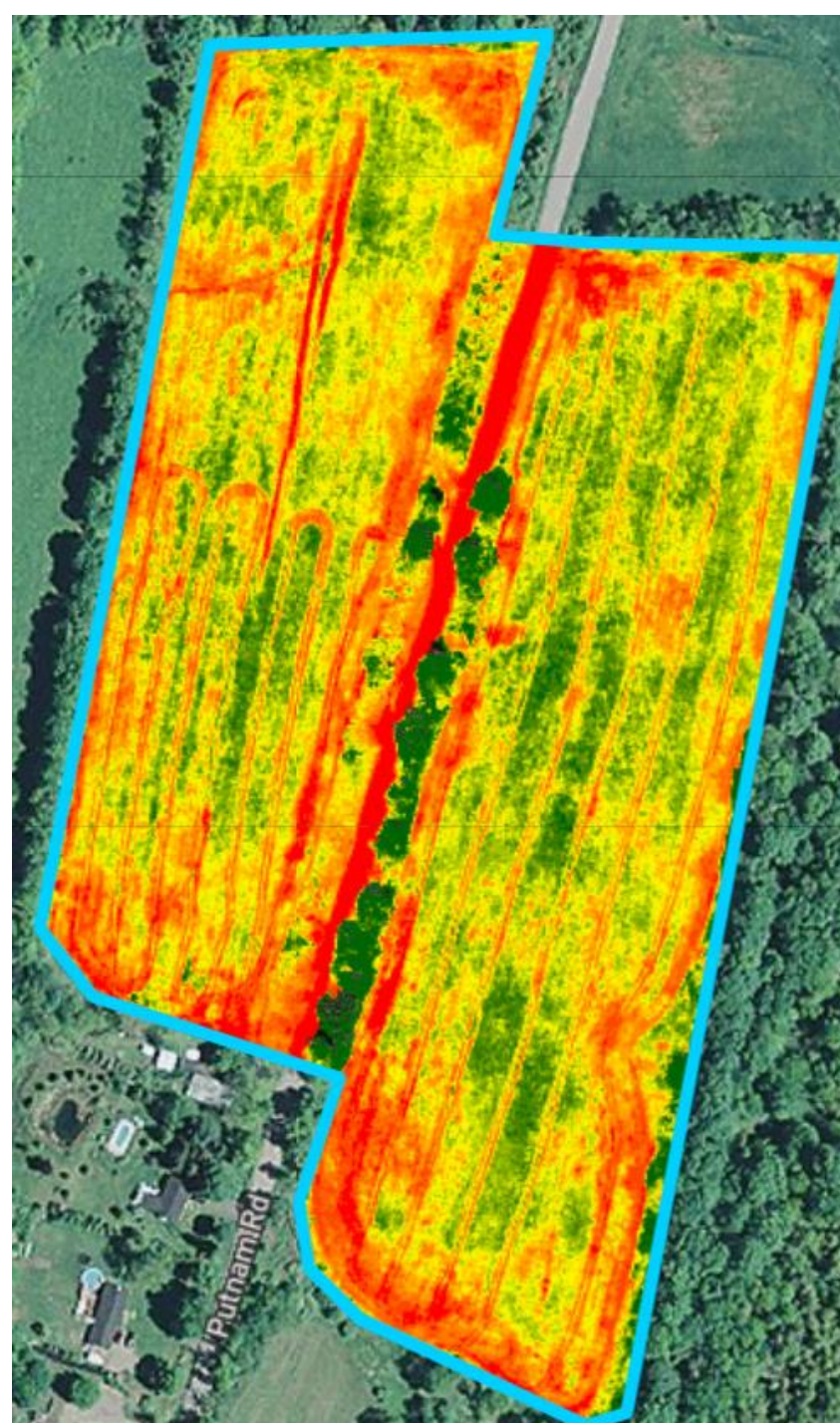


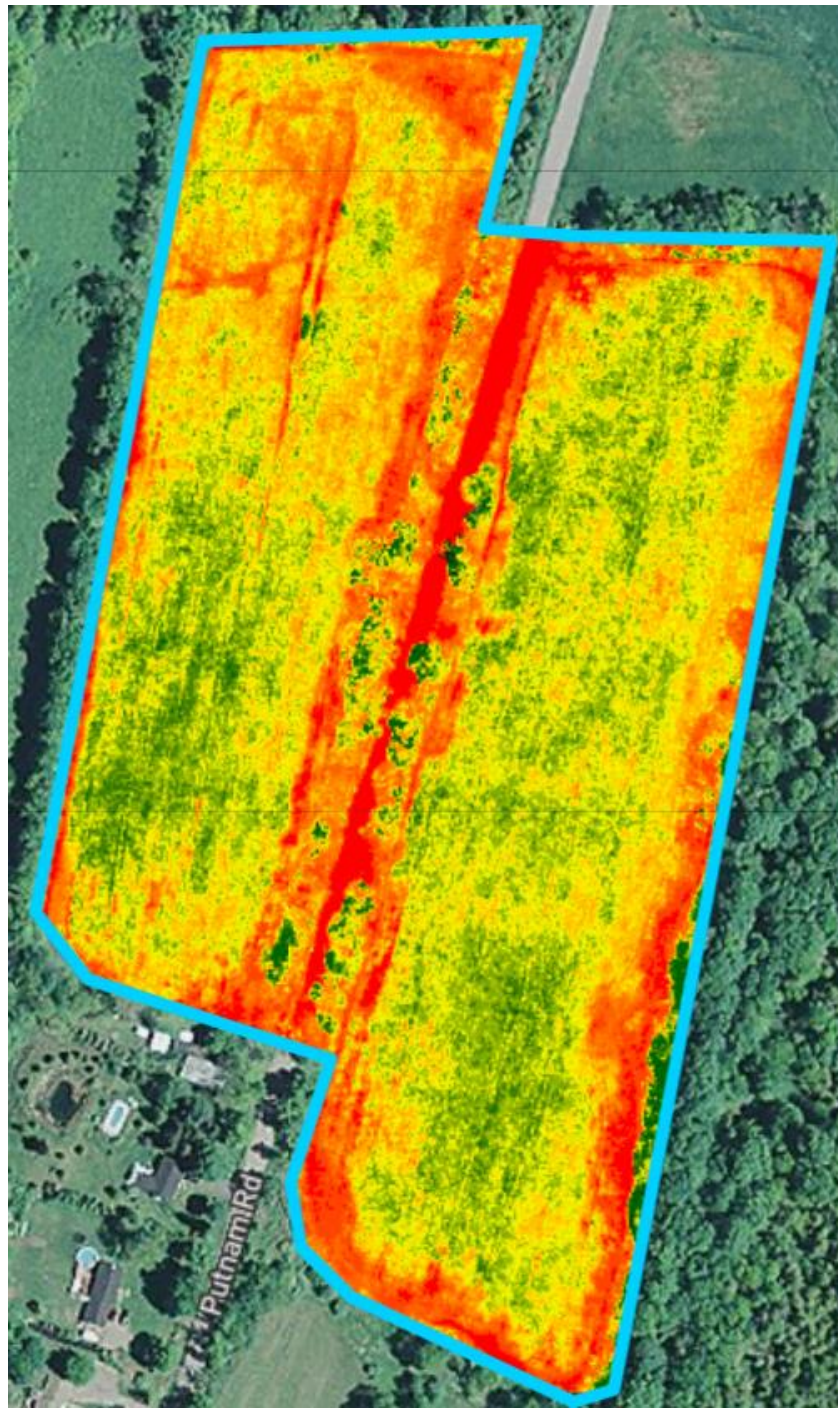


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July 23





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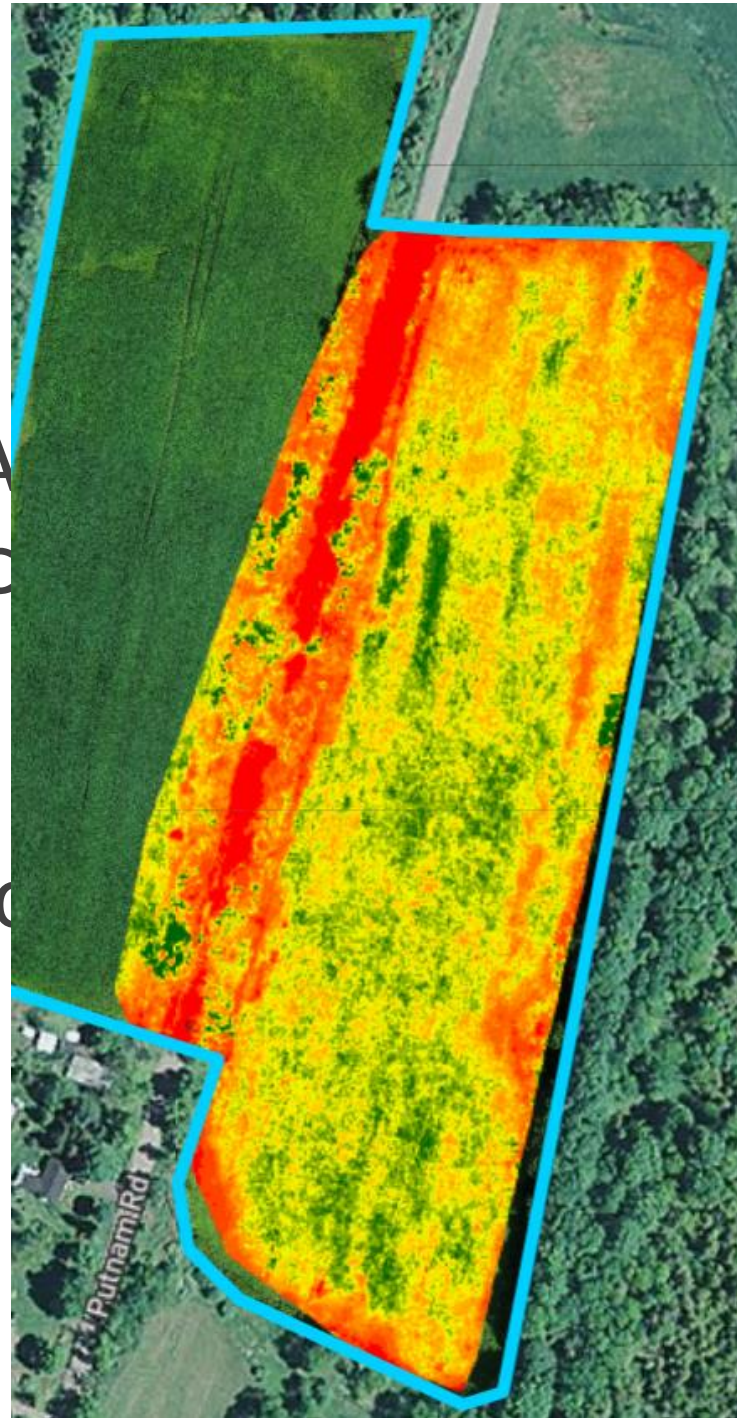
July 30



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August 9th

August 19th



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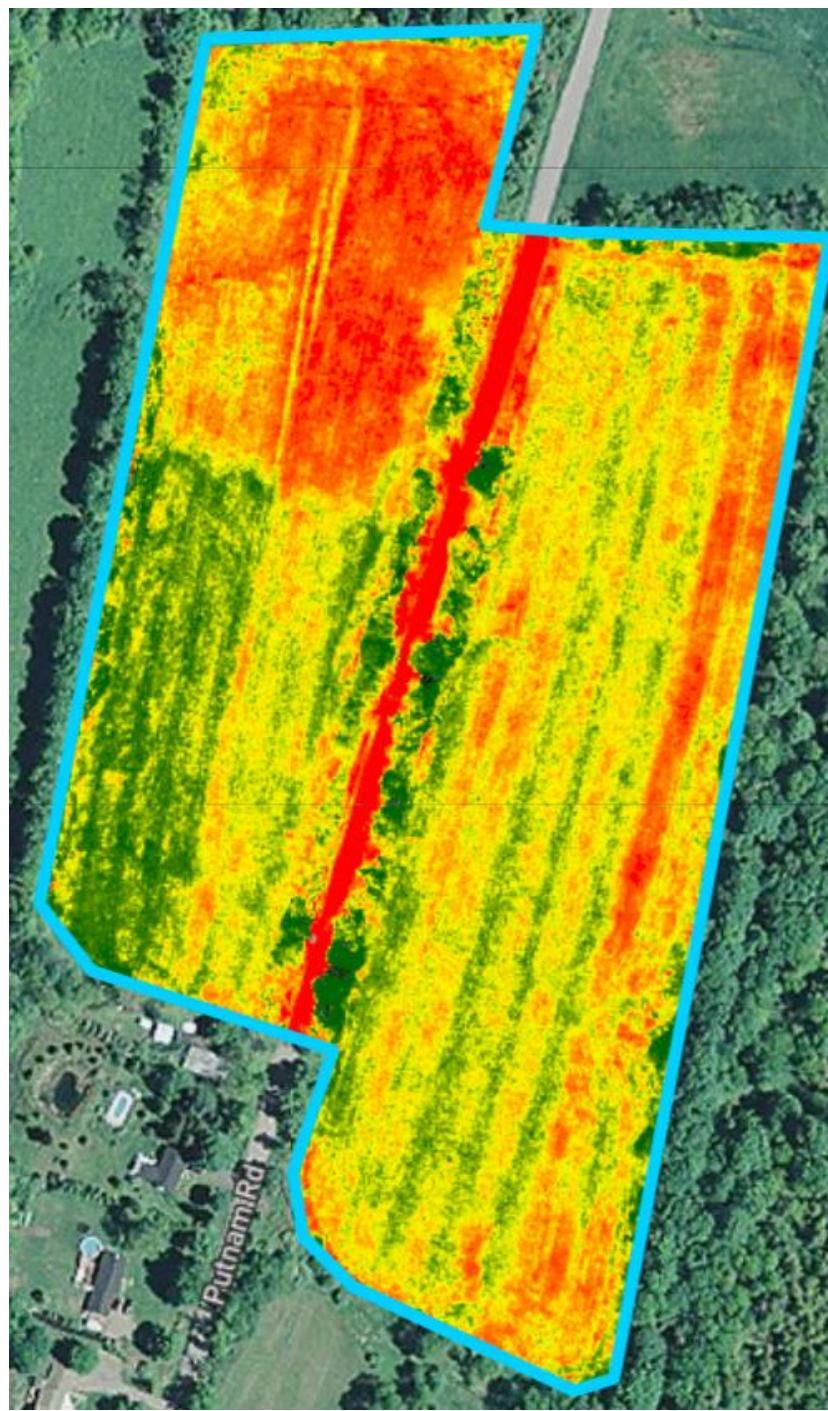
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Sept 3rd





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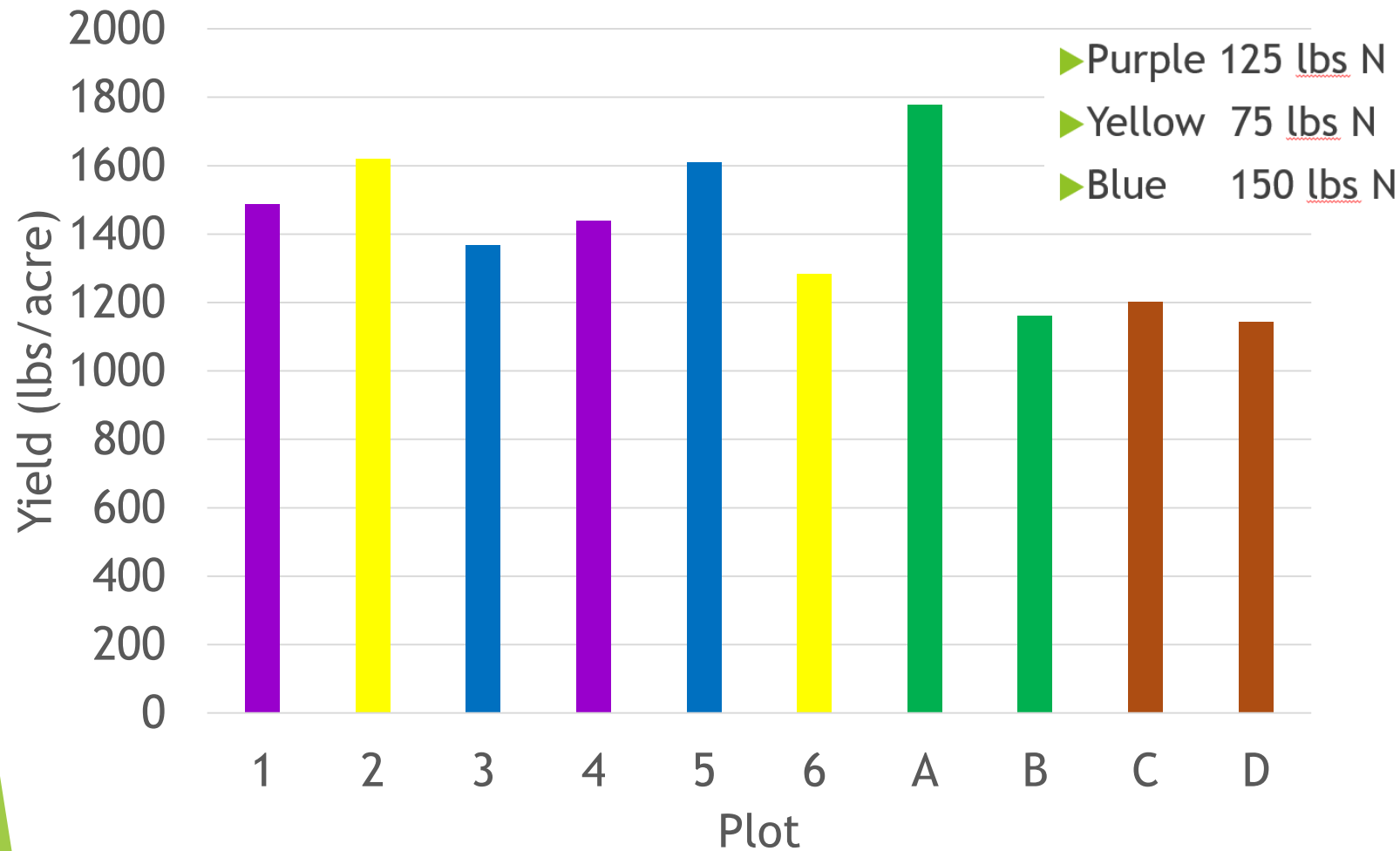
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To drone or not to drone?

- ▶ Drone imagery is absolutely worth it
- ▶ NDVI imaging may prove to be helpful to
 - ▶ Determine if sidedressing is required - maybe
 - ▶ Identify problem areas in the field during the season - though maybe too late to rectify
 - ▶ Determine harvest readiness / predict yield

Grain Yield

Grain Yield in lbs/acre



This is hand harvested not combine harvested therefore trends are accurate but values may not be



New Problems for 2019



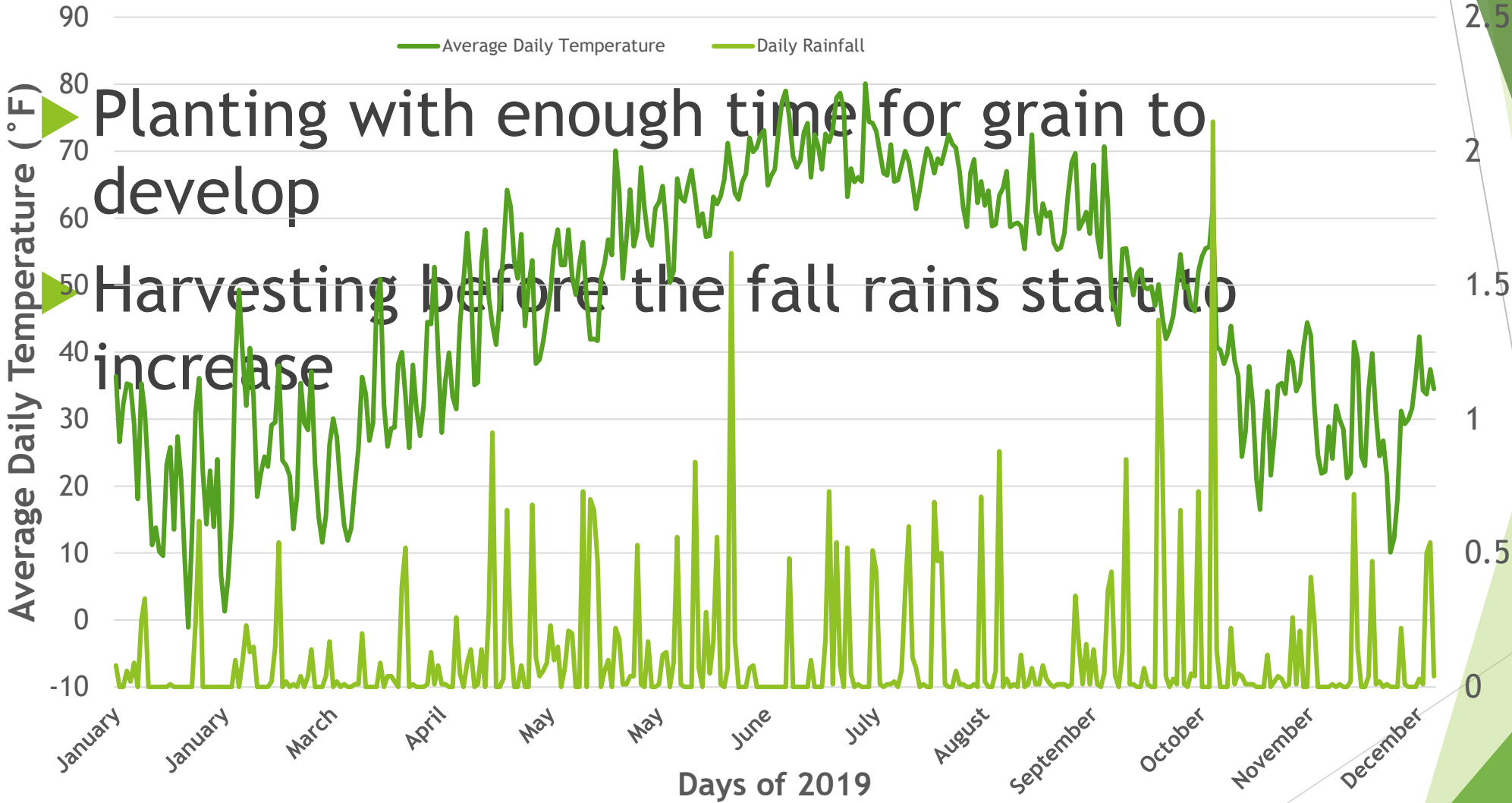
- ▶ Vivipary
- ▶ Case-Bearing Beetle



Grain Season Concerns



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Thank you

- This research is made possible by the blood sweat and tears of the summer student hemp interns and by funding from the New York Farm Viability Institute and Empire State Development



Empire State
Development



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