

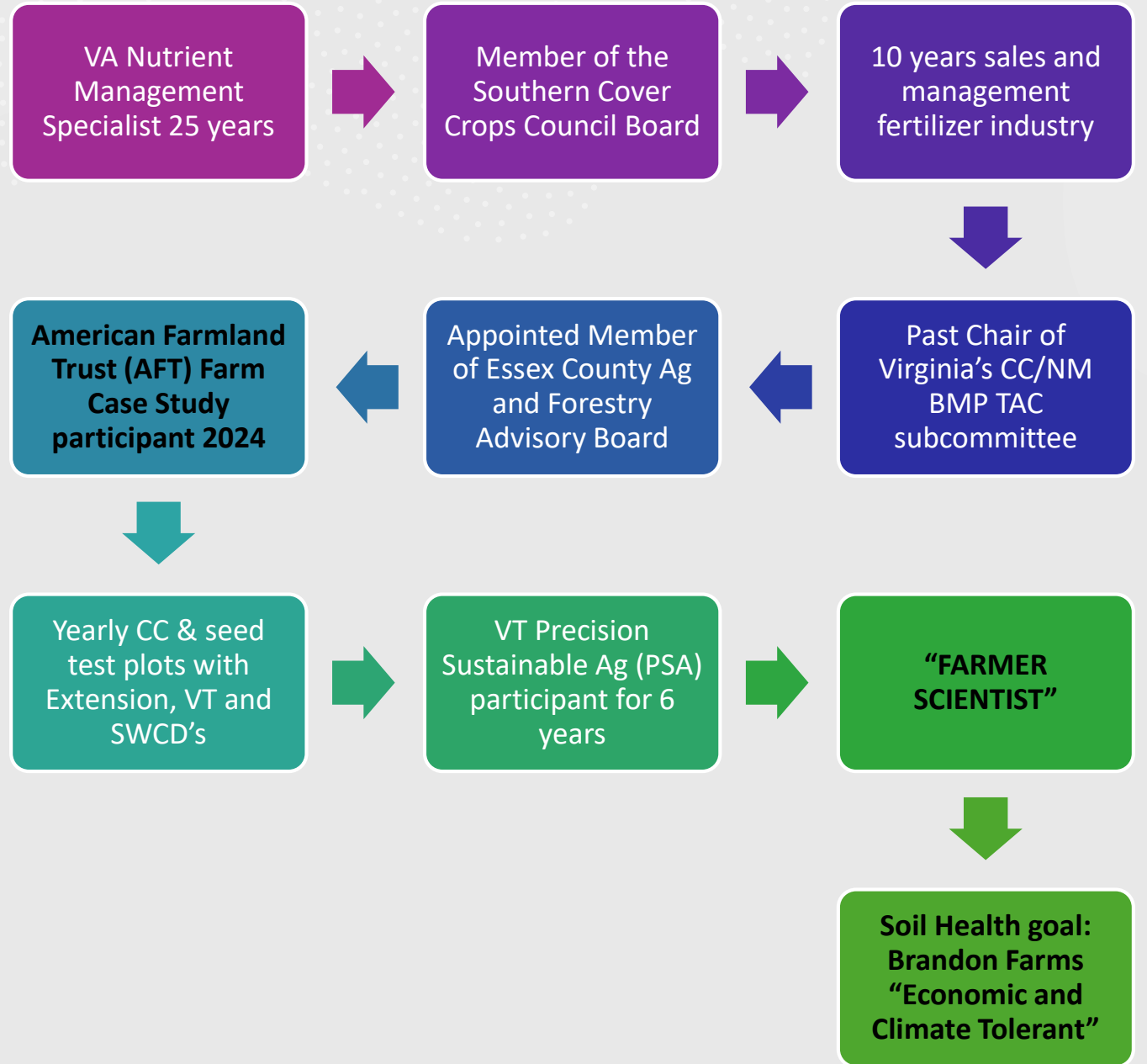
Robert Waring

**Colonial SWCD
Senior
Conservation
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Brandon Farms



ROBERT WARING - BRANDON FARMS





Pay for Performance concepts

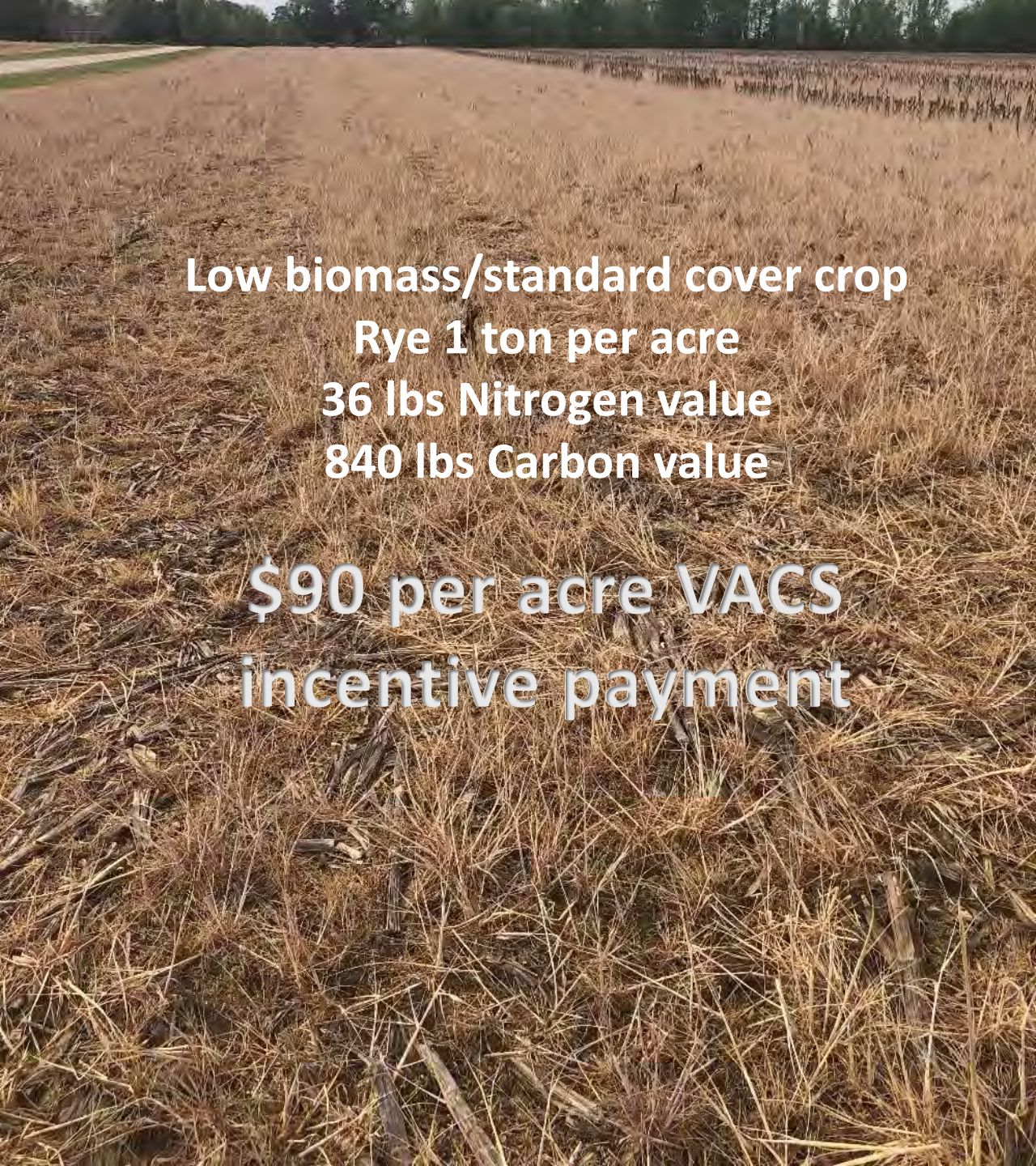
Identify incentives for more cover crop biomass production – outcome based

Identify incentives for reduced or even no application of nutrients – precision verified

Making a more accurate model

Can we find soil health/carbon investors in the future?

Can we identify incentives for summer cover crop
Pay for Performance in the future?



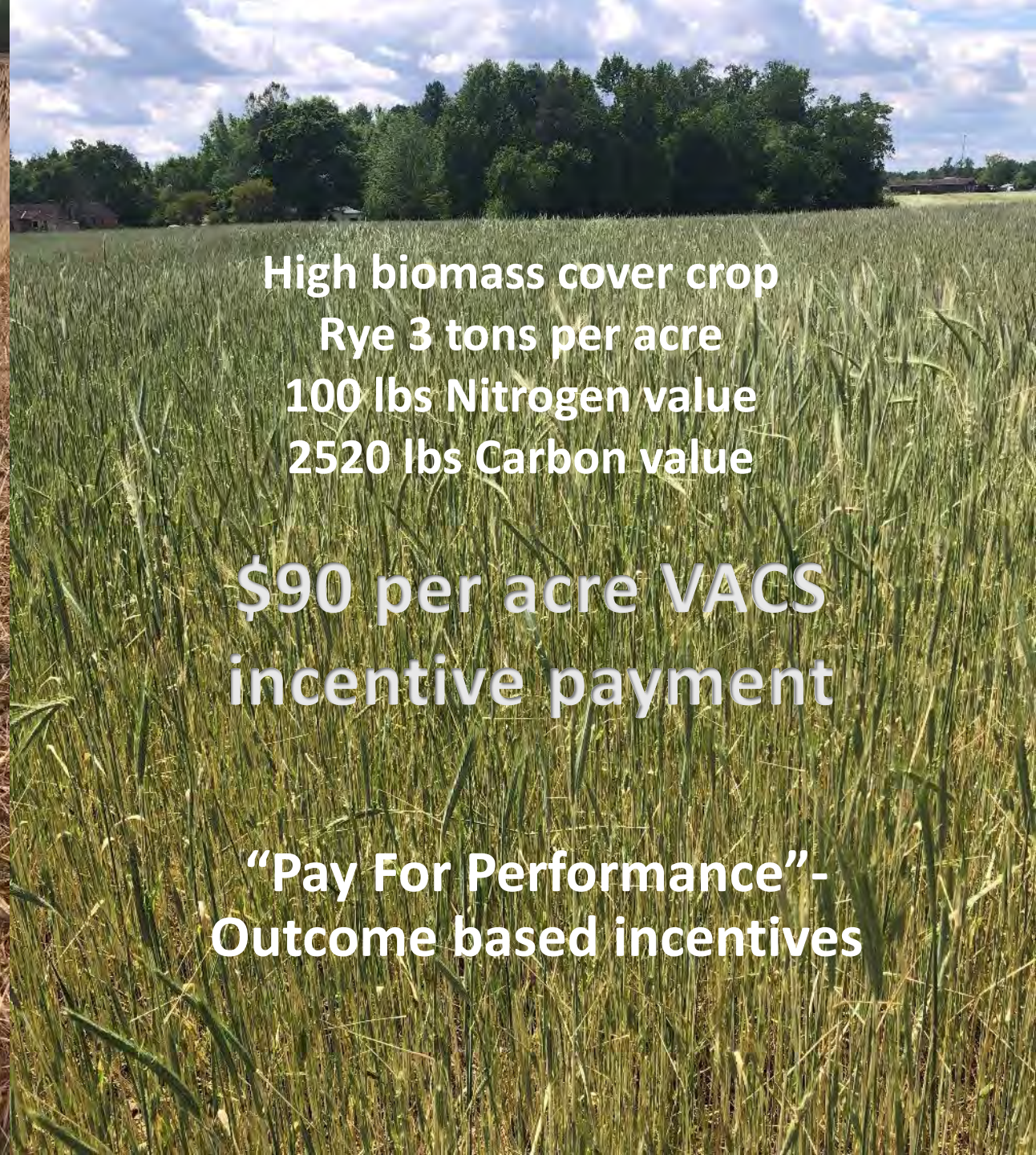
Low biomass/standard cover crop

Rye 1 ton per acre

36 lbs Nitrogen value

840 lbs Carbon value

**\$90 per acre VACS
incentive payment**



High biomass cover crop

Rye 3 tons per acre

100 lbs Nitrogen value

2520 lbs Carbon value

**\$90 per acre VACS
incentive payment**

**“Pay For Performance” -
Outcome based incentives**

USDA –ARS Alabama

Cover crops: How to boost biomass and SOC

Planting dates:

- earlier planting dates equate to higher biomass: > Nov 15

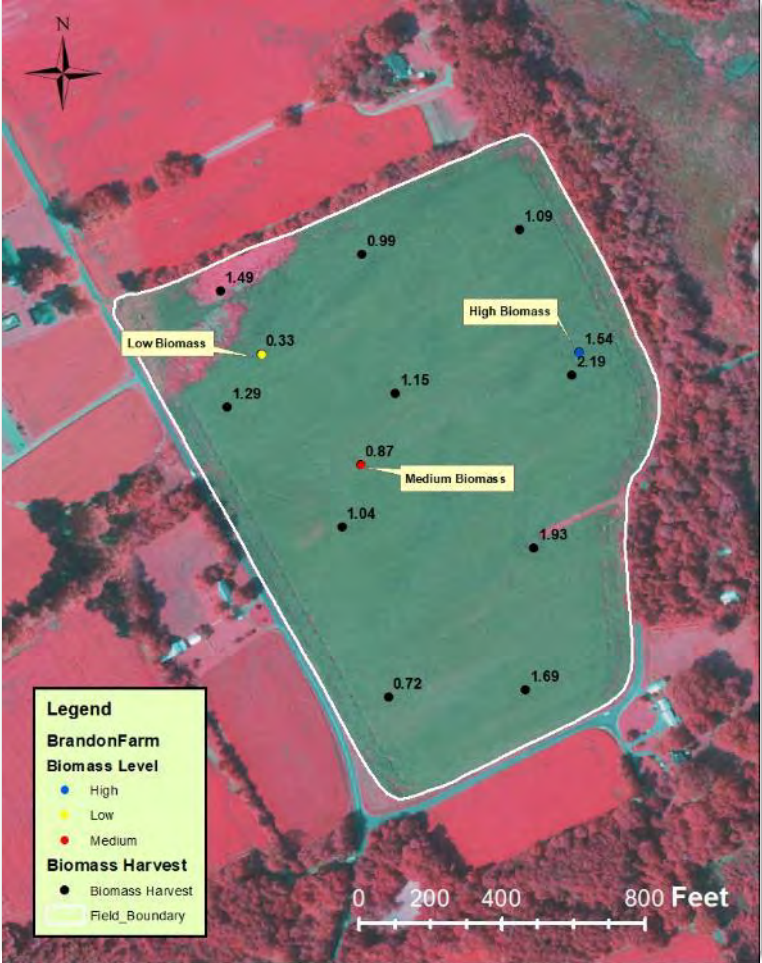
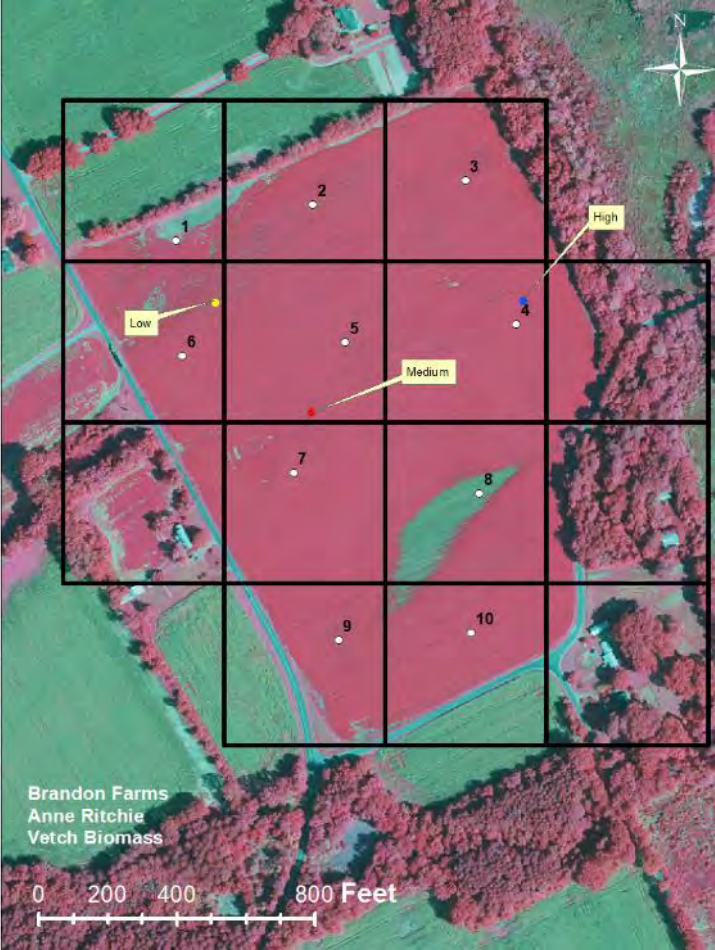
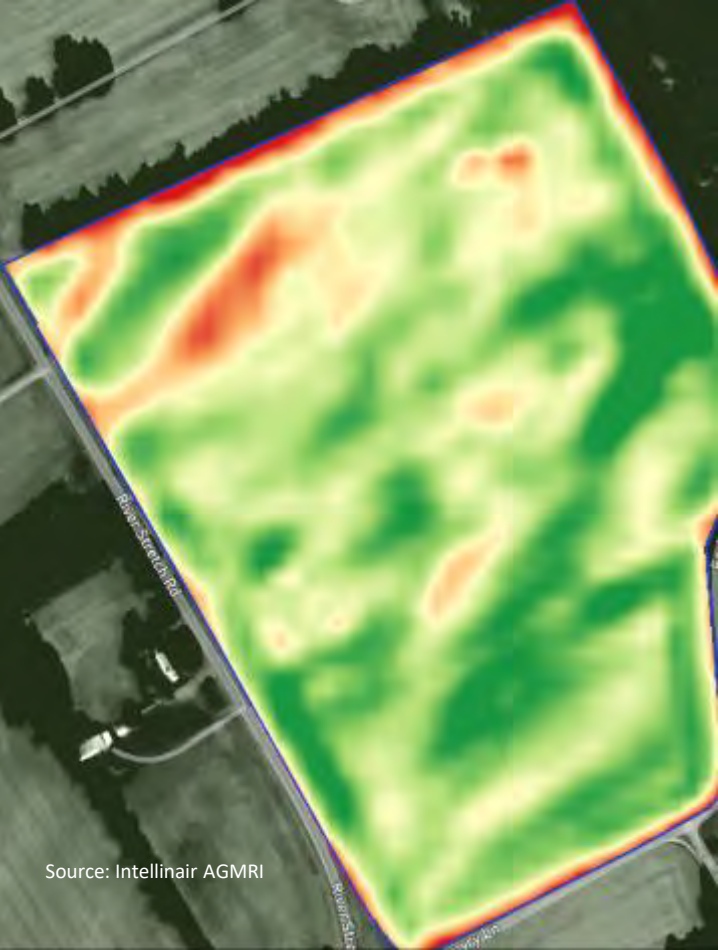
Seeding rates:

- seeding rates did **NOT** impact biomass: 60 lbs vs 90 lbs

Nitrogen applications to cover crops:

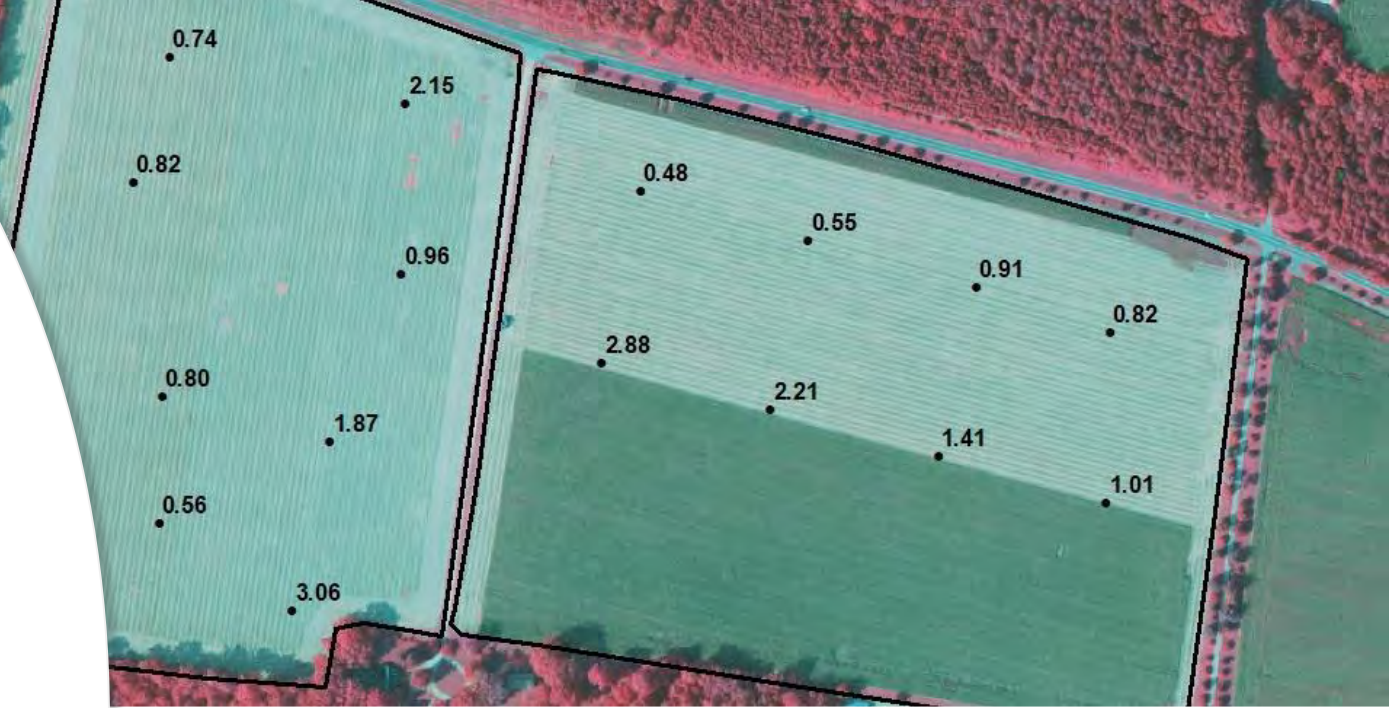
- **depends**

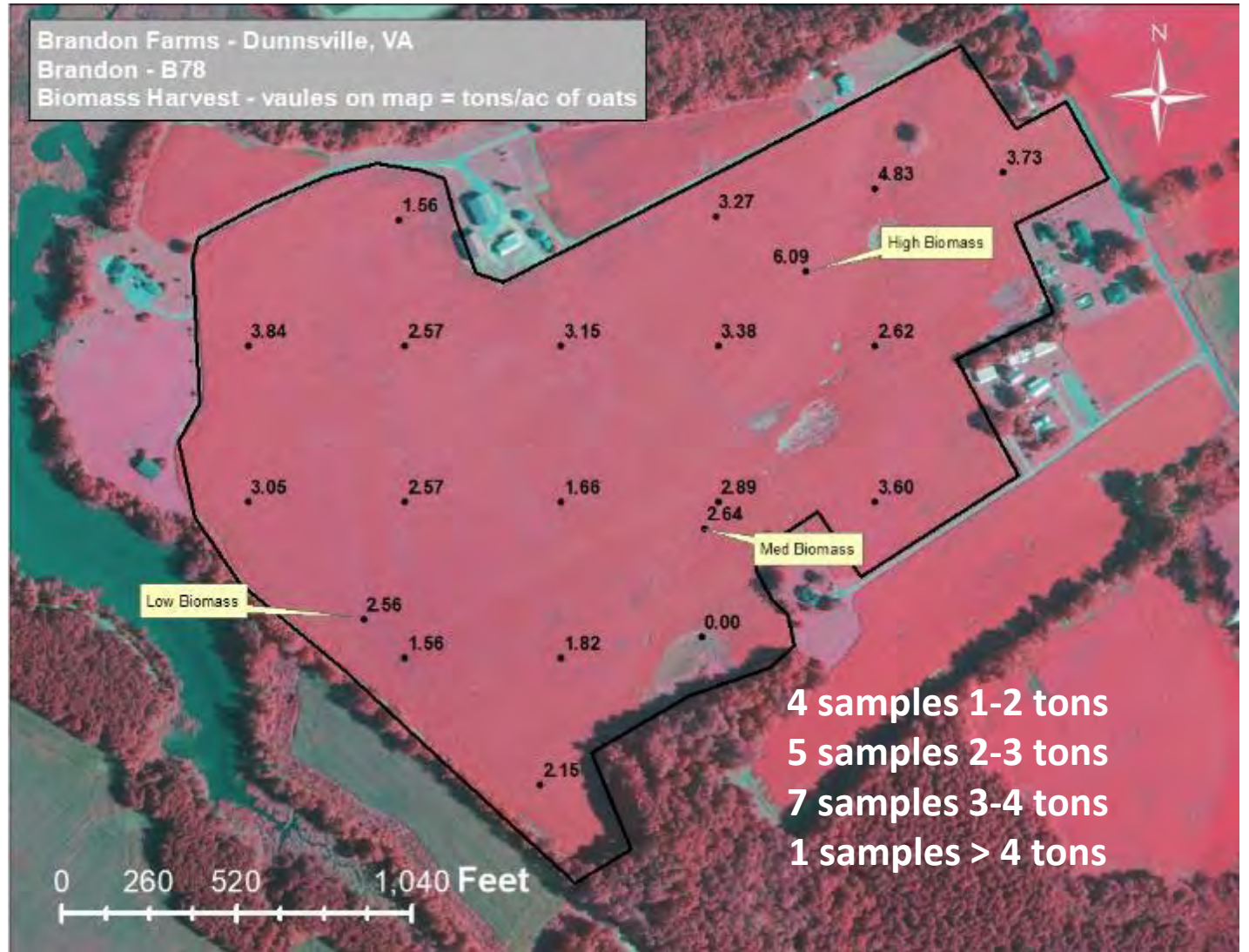
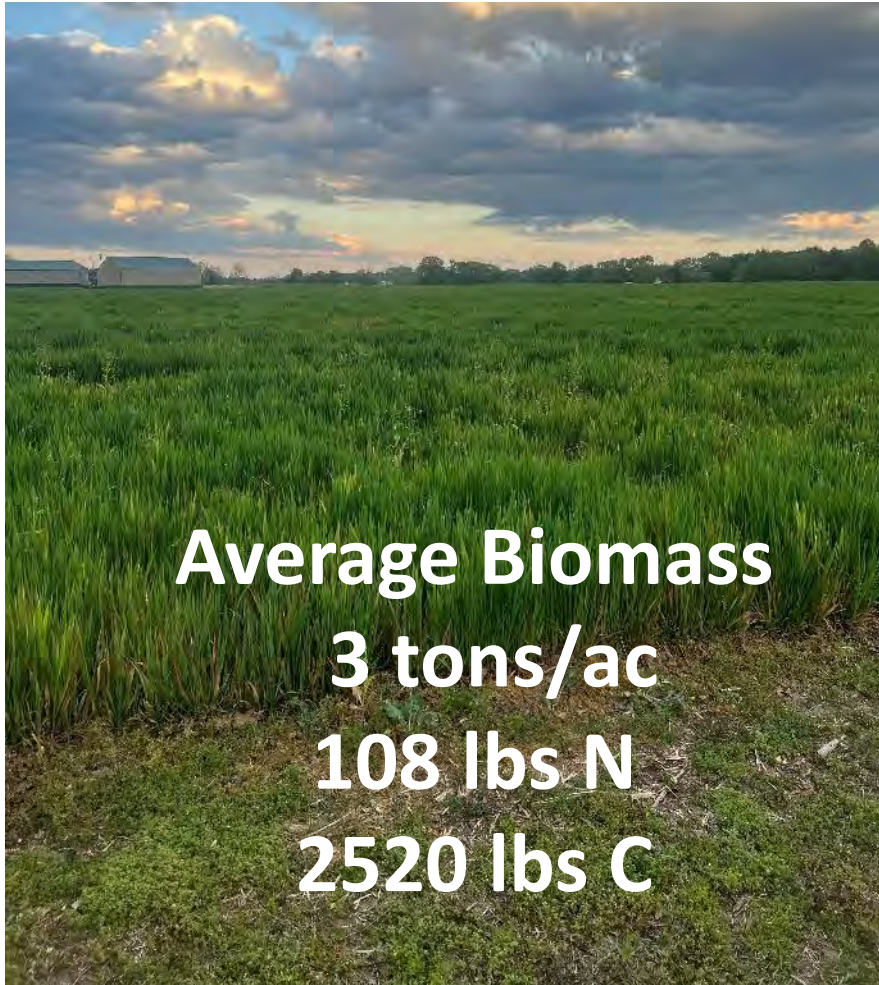
Proof of Concept



Average Biomass 1.32 tons/ac
47 lbs N
1108 lbs C

- 4 samples 2.4 tons
- 2 samples 1.6 tons
- 10 samples .75 tons





Brandon Farms - Dunnsville, VA
Brandon - B78
Biomass Harvest - vaules on map = tons/ac of oats



Radish vs Oats
Within color spectrum

Imagery for Outcome-based Performance

What if's

Rethink early vs late planted dates: should we

- Stand Emergence December/January (\$bonus??)
- 60% cover determination March 1 for Water Quality/WIP goals
 - Baseline payment: up to 2000 lbs biomass value (\$??) 45?
- Soil health/Carbon determination May 1
 - Enhanced payment: 2000-6000 lbs biomass values (\$??) +45?
 - 6000+ lbs biomass value (\$??) +45? +90?

Pay for Performance

Satellite imagery for VR N?

Drones?

Contingent on managing unforeseen variables: %N

Precision-based applications for reduced/no application of Nitrogen (and Phosphorous)

1:1 reduction in model credit

Brandon Farms NMP

Total P allowed allocation 7840 lbs

Total P actual applied 0 lbs

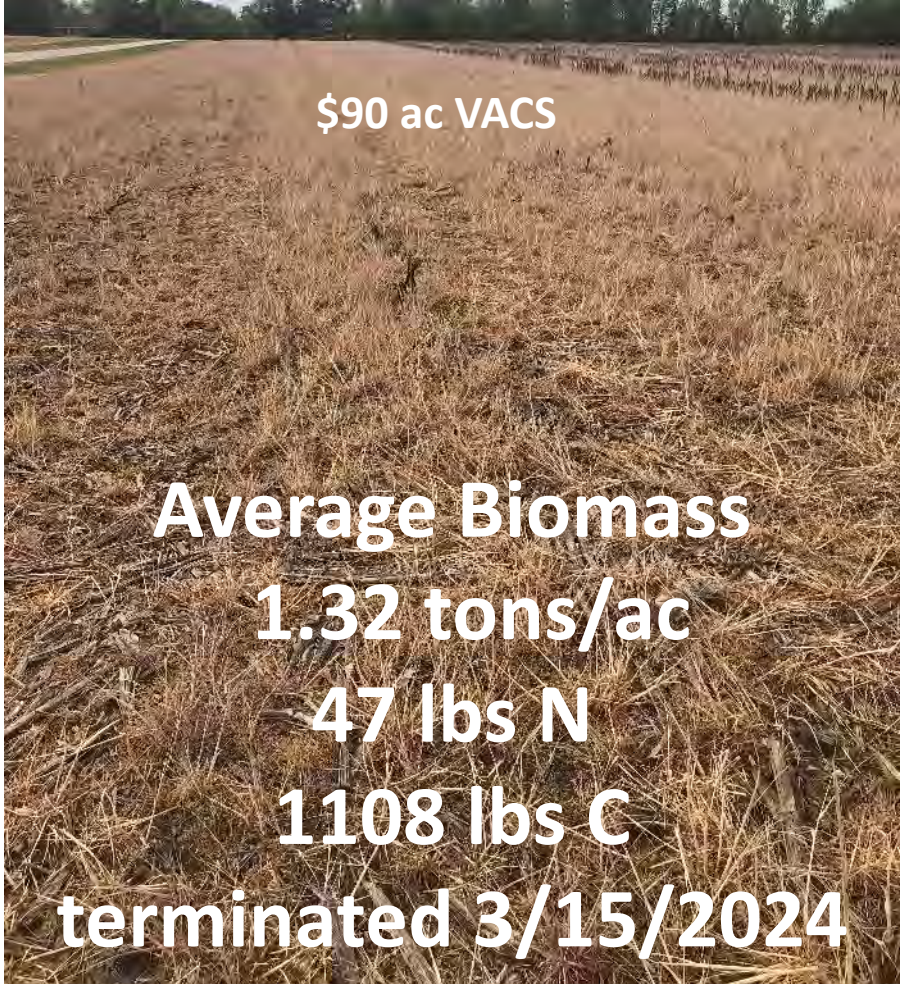
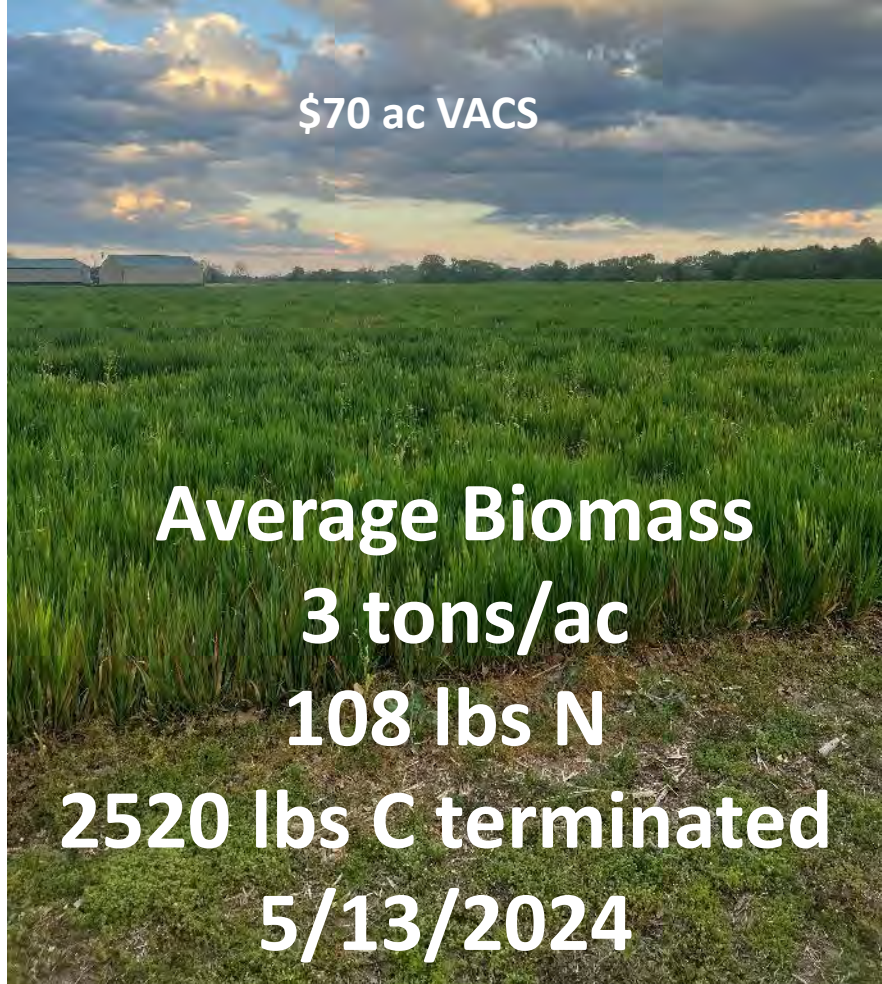
7840 lbs not applied

Total N allowed allocation 13992 lbs

Total N actual applied 8600 lbs

5392 lbs not applied





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