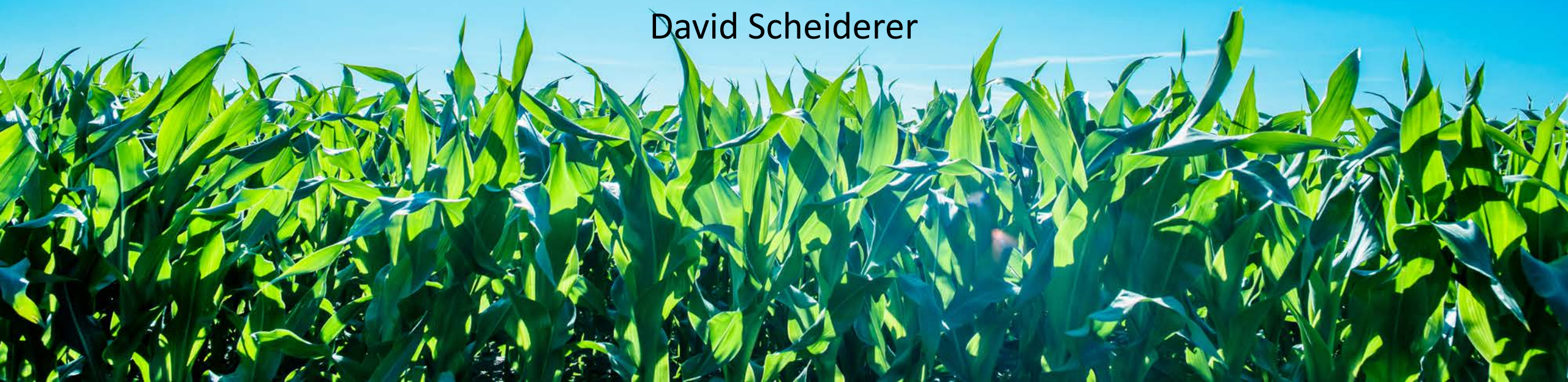
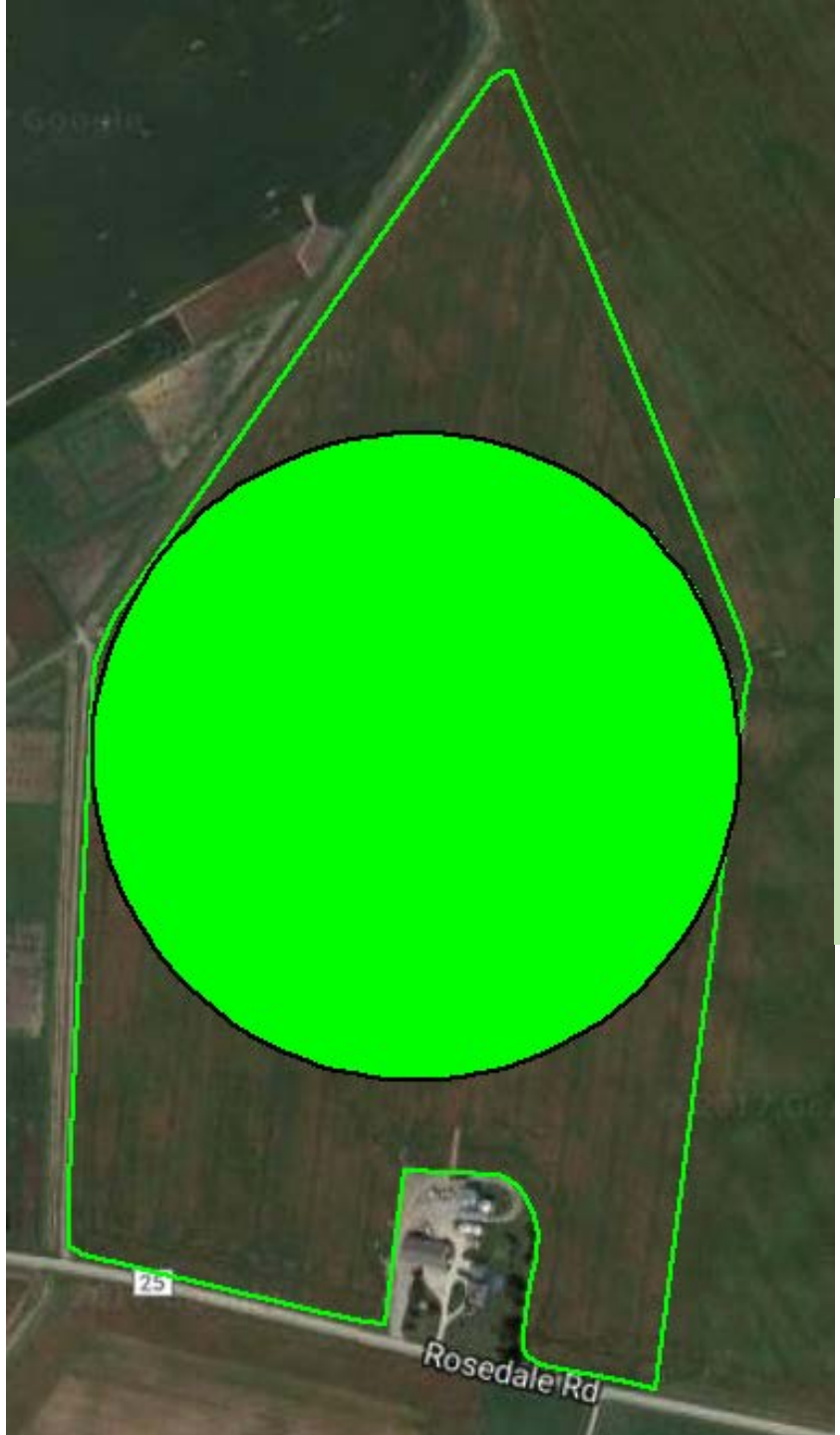
Common Sense Approach to Fertigation

David Scheiderer



Integrated Ag Services



Why use SDI versus a Center Pivot

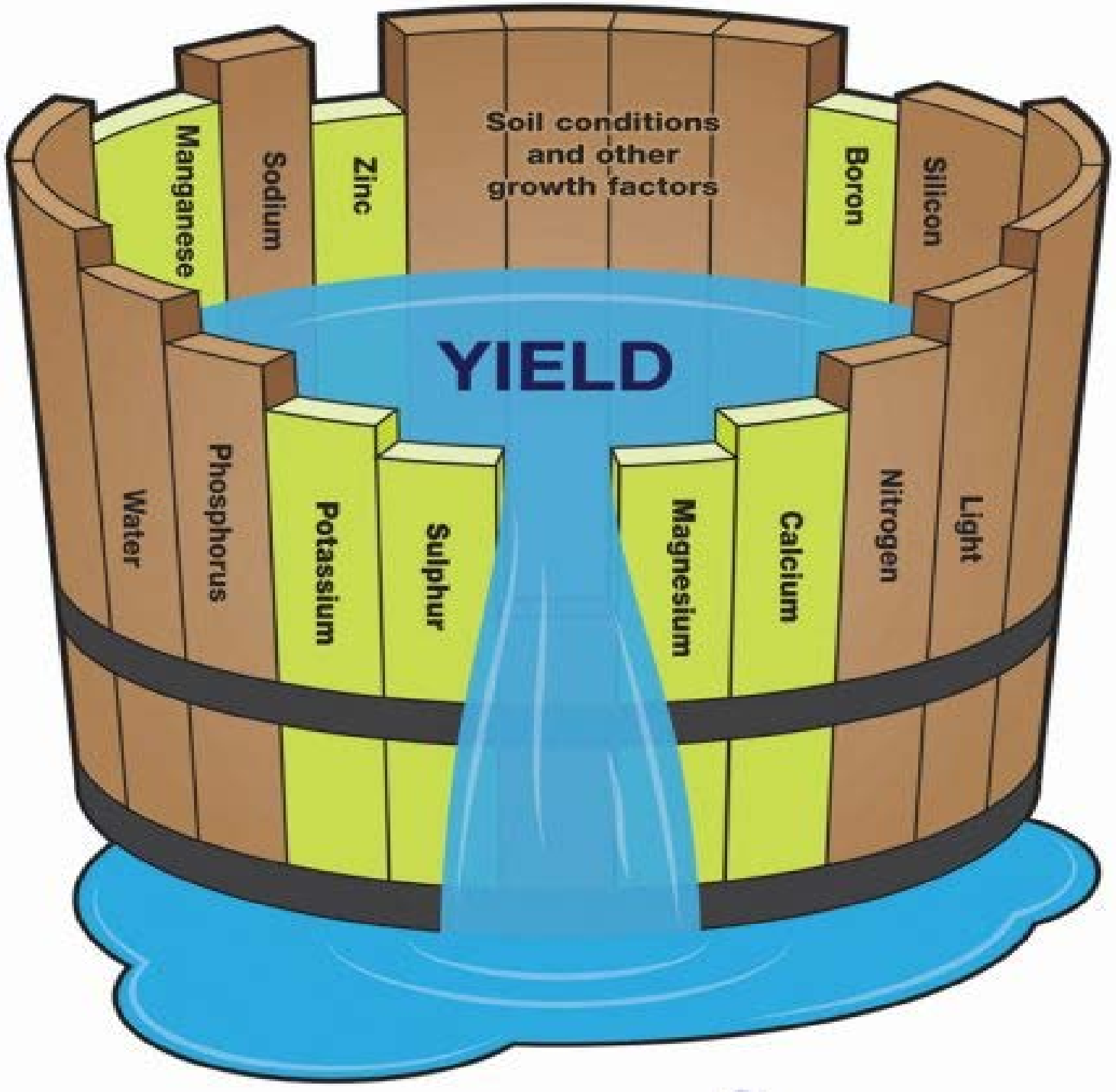
Drip Tape Installation

Installing Supply Lines

Making Connections to Drip Tape

Liebig's Law of the Minimum

Once water (too much, too little) is removed from the minimums, then we can truly evaluate other agronomic factors reducing yields



Subsurface drainage Key!!

Hold off Irrigating and Fertigating until > V3 Corn

- Row starter (10-34-0 or complete starter)
  - If using 12-0-0-26 and or 28-0-0 it MUST be applied 2X2
  - Row Starter is generally NOT rate responsive, low rates work as well as high rates
  - Placement is critical – in furrow and/or 2X2 works best
- If no Sulfur in row - Broadcast AMS 100 lbs./ac. (Planting to V2)
- Minimal amount of nitrogen (30-60 lbs. act. N)

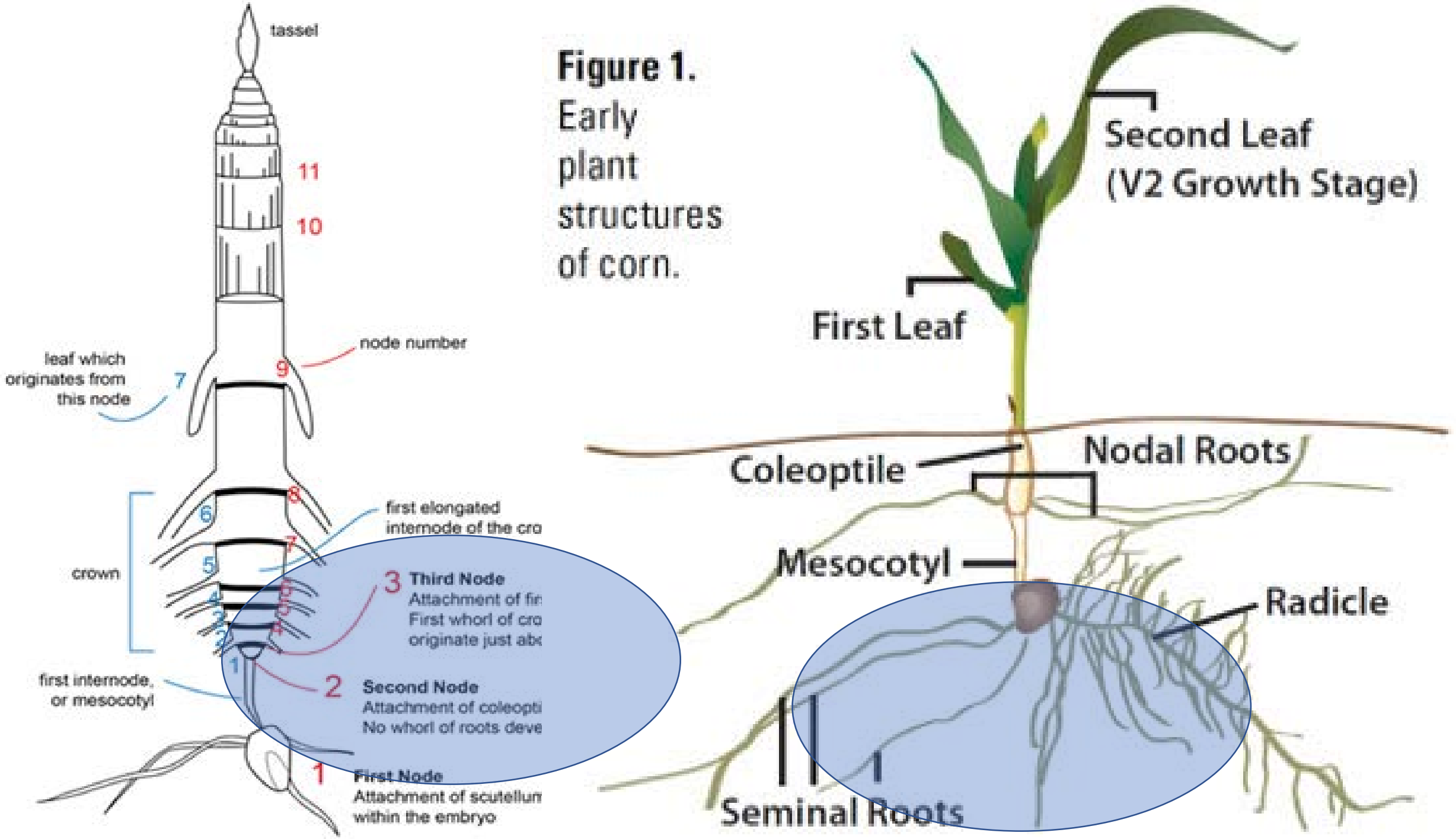
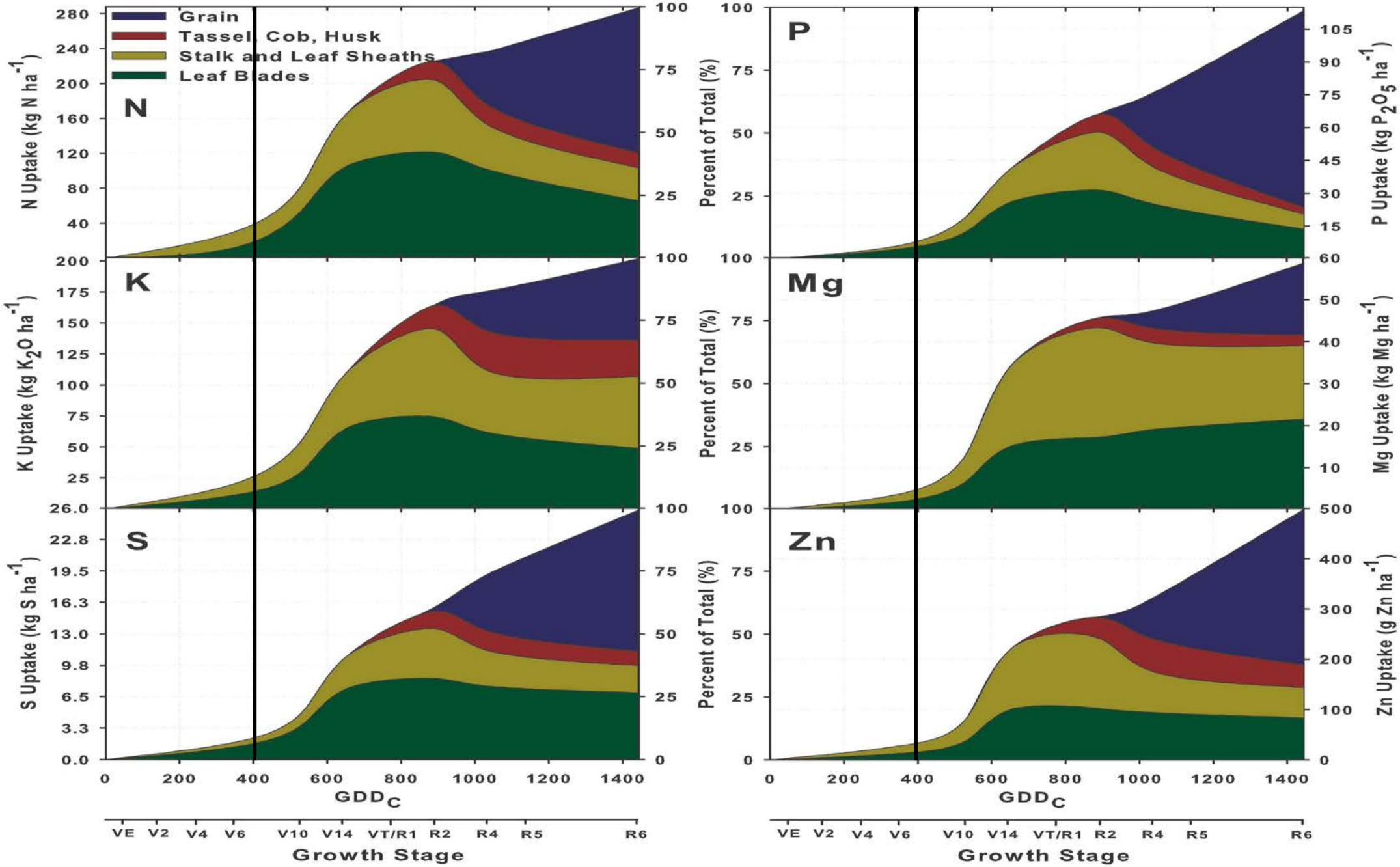


Figure 1. Early plant structures of corn.


Grain
Tassel, Cob, Husk
Stalk and Leaf Sheaths
Leaf Blades
N
K
S
P
Mg
Zn
N Uptake (kg N ha-1)
K Uptake (kg K2O ha-1)
S Uptake (kg S ha-1)
P Uptake (kg P2O5 ha-1)
Mg Uptake (kg Mg ha-1)
Zn Uptake (g Zn ha-1)
Percent of Total (%)
GDDC
VE V2 V4 V6 V10 V14 VT/R1 R2 R4 R5 R6
Growth Stage

Compaction dramatically affects root growth

Compaction dramatically affects root growth

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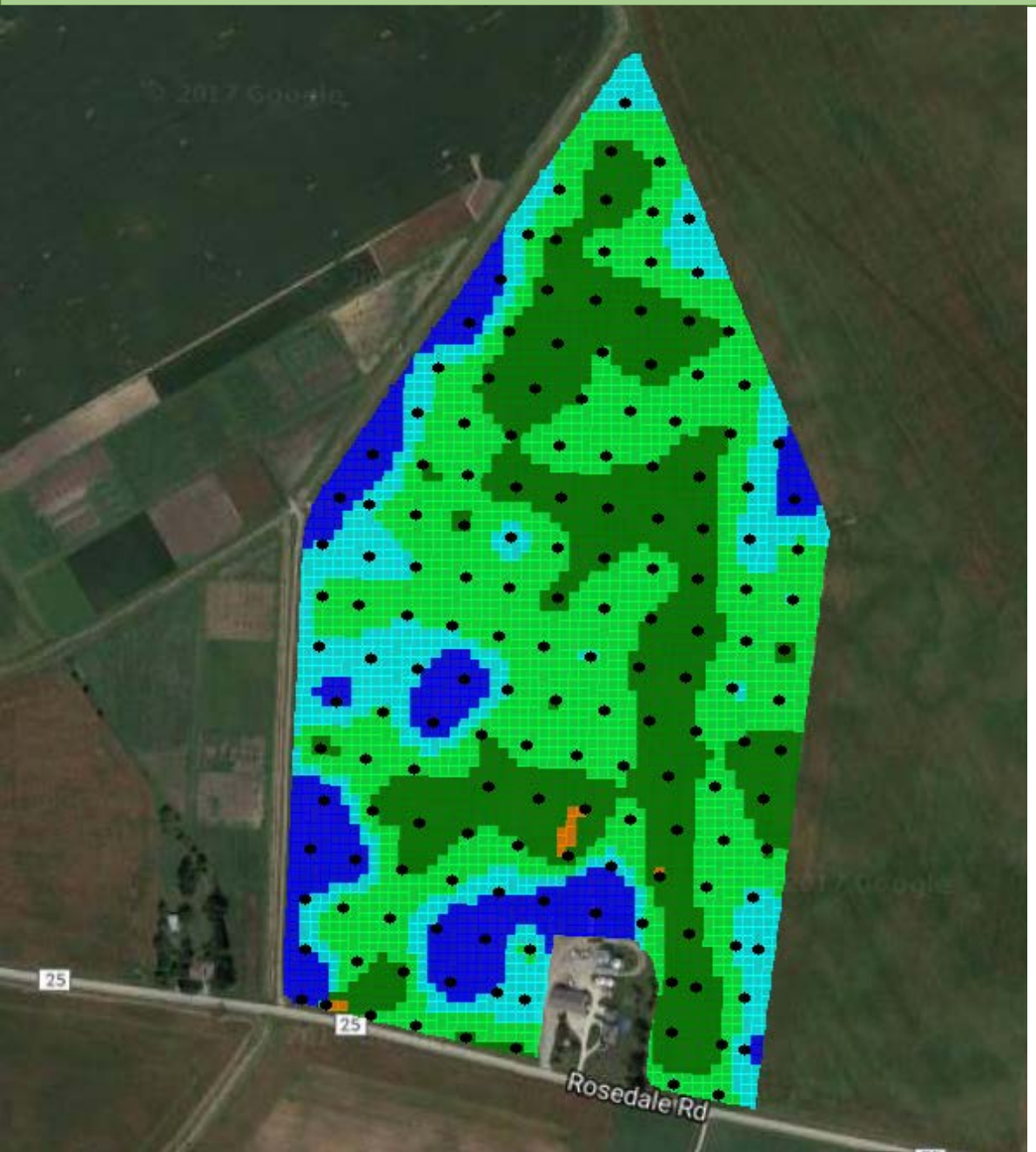
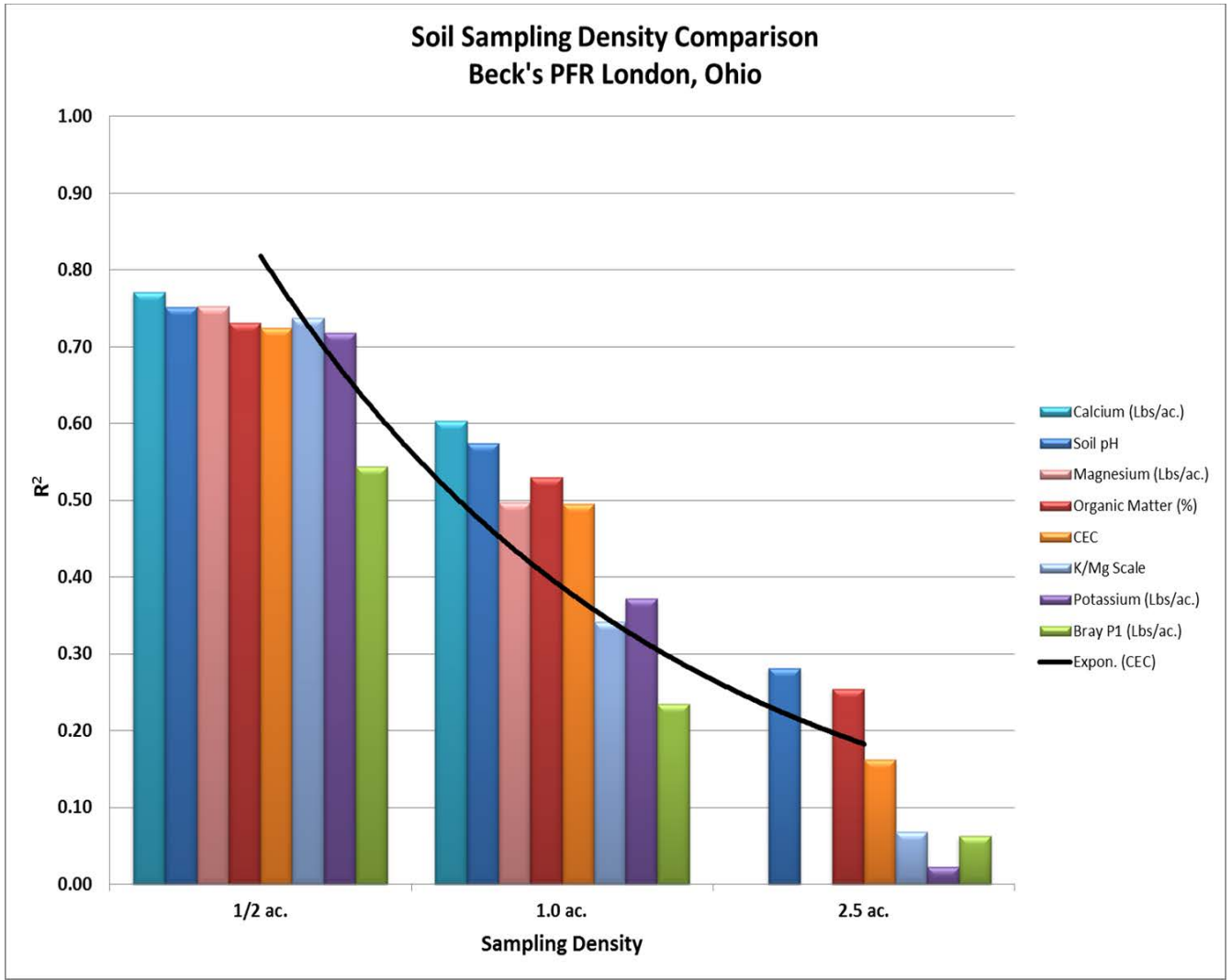
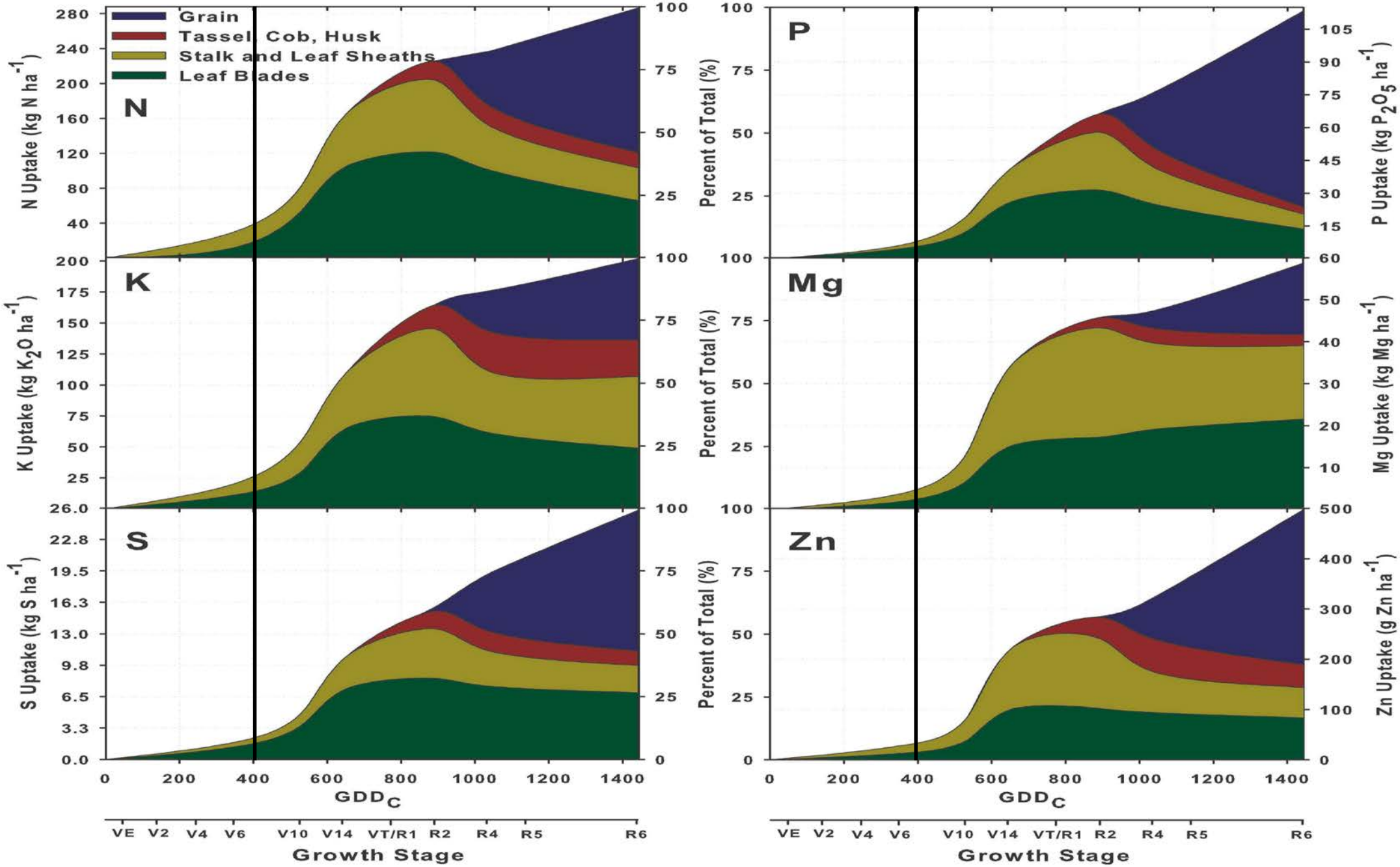
HD Soil Sampling – ENTRANCE EXAM



- Determine nutrient needs
- Make corrective measures




Grain
Tassel, Cob, Husk
Stalk and Leaf Sheaths
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Percent of Total (%)
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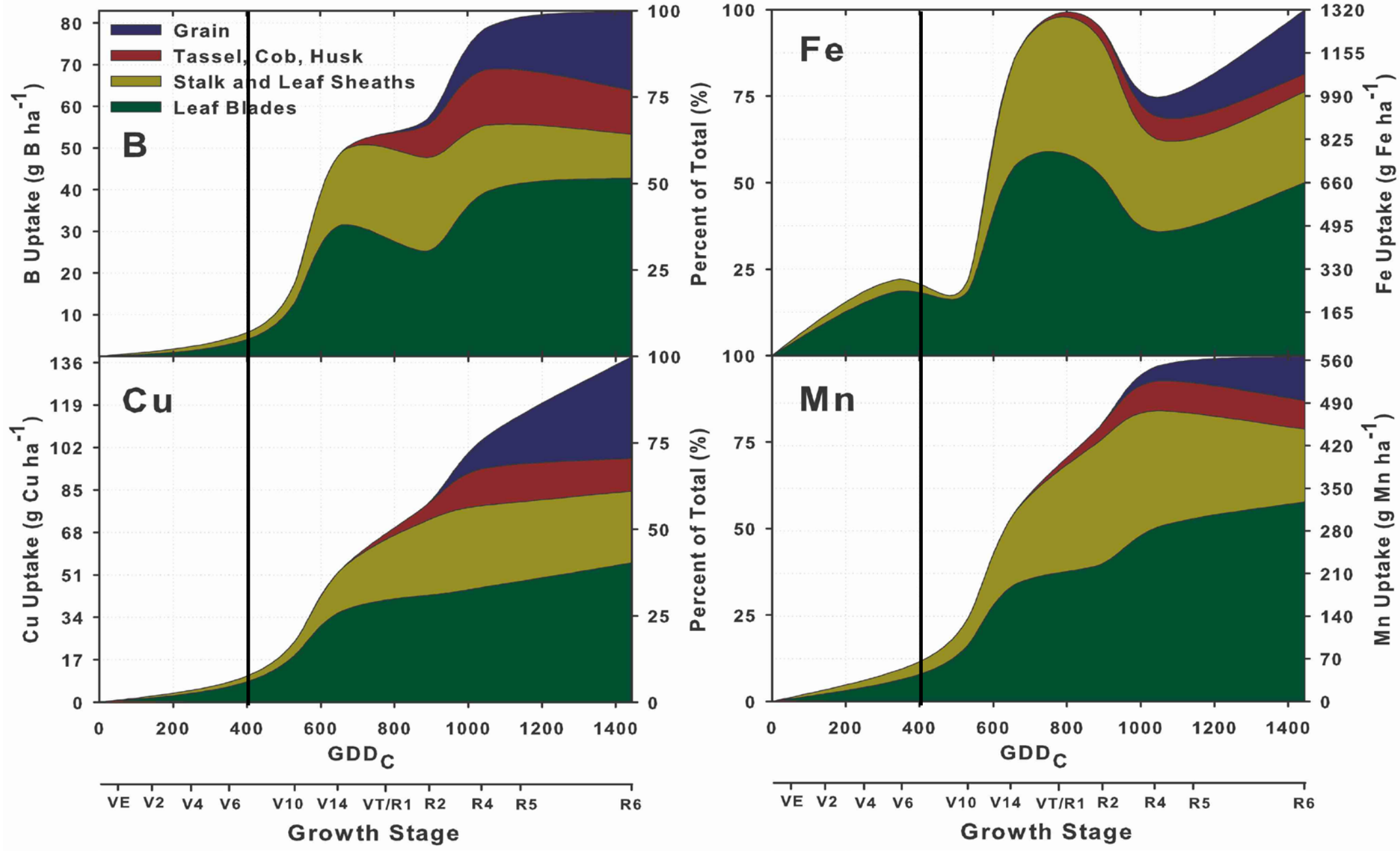
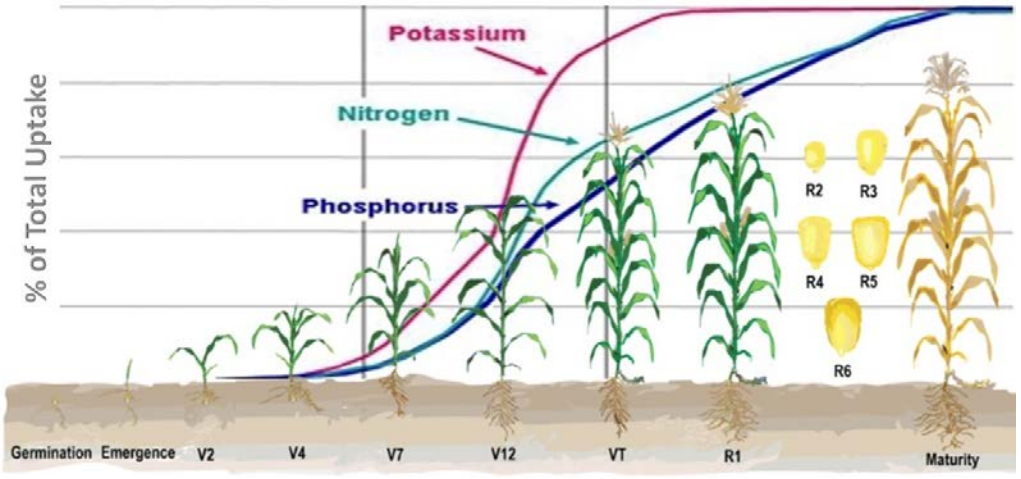
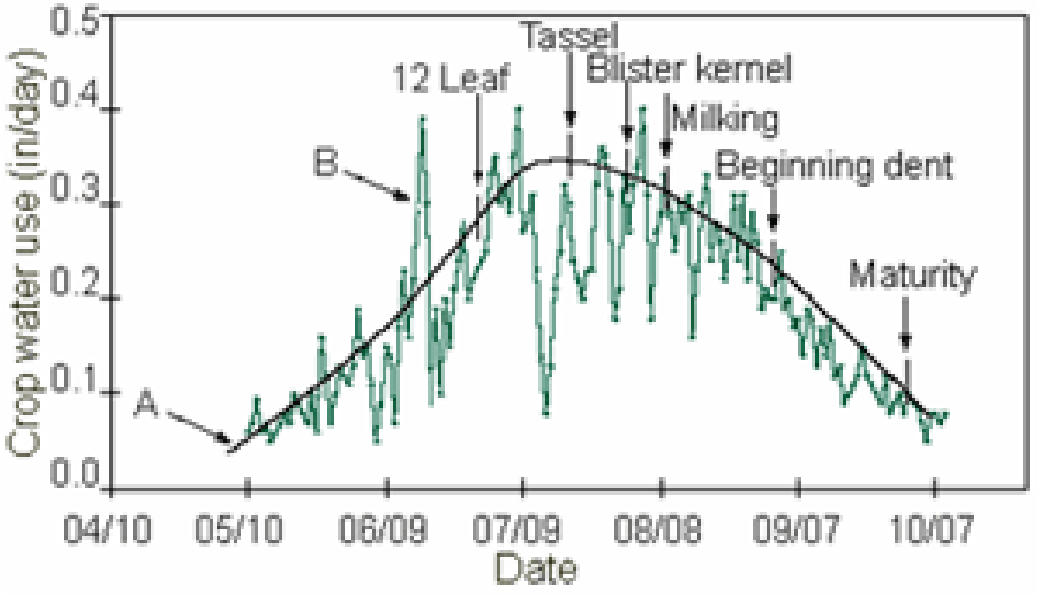
Growth Stage


Grain
Tassel, Cob, Husk
Stalk and Leaf Sheaths
Leaf Blades
B
Cu
Fe
Mn
B Uptake (g B ha-1)
Cu Uptake (g Cu ha-1)
Fe Uptake (g Fe ha-1)
Mn Uptake (g Mn ha-1)
Percent of Total (%)
GDDC
VE V2 V4 V6 V10 V14 VT/R1 R2 R4 R5 R6
Growth Stage

Rapid Growth Stage (V6-V12)





- Watering is critical to move nutrients into the plant
- Massive amounts of potassium needed
  - Most of the potassium needs to come from soil applied K
  - Fertigate 5 lbs. soluble potash from V4 - V10
- Massive amounts of nitrogen are needed (7.8 lbs/day)
  - Fertigate nitrogen from V4-R1 (spoon feed 4-5 times)
  - 0.9 lbs. N/bu. of corn (250 bu./ac. =225 lbs. N)
- Phosphorus is incrementally needed through grain fill
  - Most of the phosphorus needs are met through starter and soil applied P.
  - If possible split apply fall and in-crop
- Sulfur is incrementally needed until grain fill
  - Fertigate Sulfur from V4-R1
  - Nitrogen/Sulfur ratio critical – 7/1 ratio (225 lbs. N = 32 lbs. S)
  - Use readily available sulfate sulfur
- Fertigate Zn and Boron V4-R1 (1-2 lbs. per growing season)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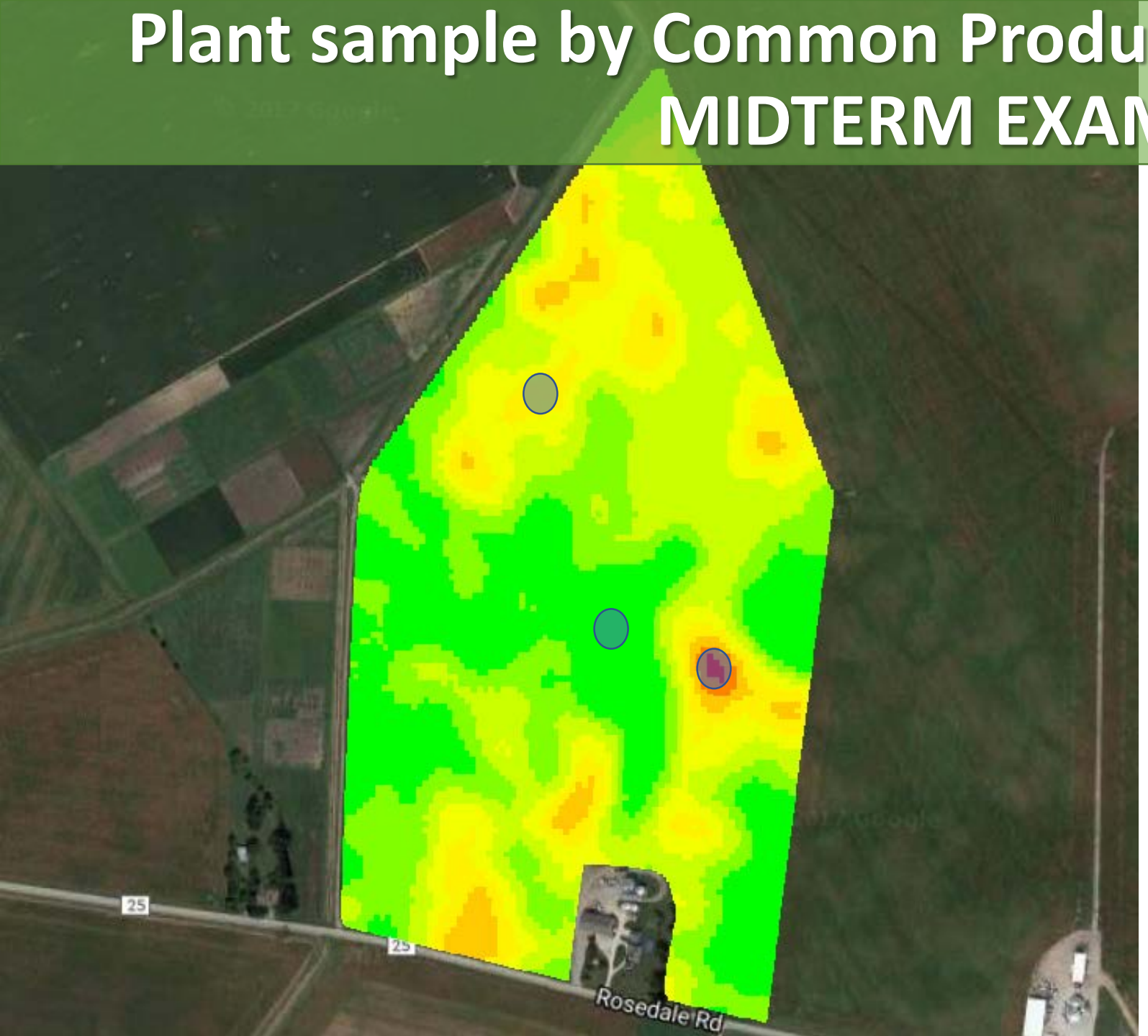
Plant sample by Common Production Unit (CPU) – MIDTERM EXAM



- Plant sample is taken every 14-21 days from V4 - R1
- Strategically sample 3 locations based on field productivity index

Yield Map and Analysis – FINAL EXAM

- Look for yield limiting factors
- Look for yield boosting factors


INTEGRATED AG
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Agronomy Meeting
Thursday, February 1st, 2018 at Der Dutchman!
Registration begins at 8:30am, Meeting starts at 9:00 am.
RSVP: (937)-826-3003 ext.6 or d.joseph@integratedag.net

Questions

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