Sunlight Harvest With Wide Rows

Bob Recker

“Houston, We Have A Problem”

- Farm Economics
- Soil & Water Quality
- Growing Population

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The Bottom Line
at the Top of the Story

You can dedicate half of your corn growing space to improving your Triple Bottom Line with little impact* on farm corn yield.

A Quote: ”You can’t learn any younger”

-Florian Recker (My Dad)

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More Quotes

"Help is Determined by the Recipient"

– Ron Leonard

"In God We Trust…Everybody else brings data."

– HJ Markley

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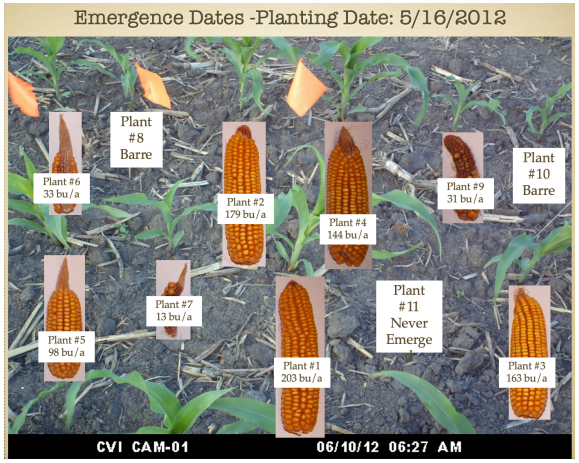
Last Quote: ”Bob’s Got Data”

-Ben Fehl



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How we got the data we are sharing with you today

How Much R&D?

Corporate Model

4% of Corporate Sales to Research & Development

- Current Product Continuous Improvement
- New Programs
- Advanced Engineering

How Much R&D?

Corporate Model

Current Product Continuous Improvement

- Find and Fix Problems
- Cost Reduction
- Marketing Support

How Much R&D?

Corporate Model

New Product Programs

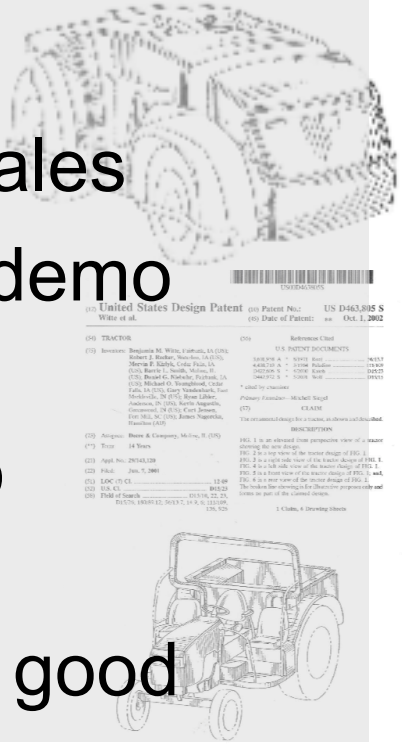
- Multiple machines in field and lab
- Thousands of hours of test and evaluation
- Major Capital Expenditures
- Company Success based on doing this well

How Much R&D?

Corporate Model

Advanced Engineering

- 10% of 4% of Sales = 0.4% of Sales
- One-of-a-kind cobbled together demo prototypes
- Goal: Demo of Concept Value to Management
- 10% Success rate is considered good



How Much R&D?

Farming Model

Current Practice-Continuous Improvement

- A little R & D Every Day
  - Find and Fix Problems (Imagery, Scouting)
  - Cost Reduction (Networking & Benchmarking)
  - Marketing Support (Landlord Relationships)

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How Much R&D?

Farming Model

New Farming Practices

- Different/Better Equipment Practices
- Different/Better Seed and Chemicals
- Study Experimental Results by Others
- Strip Trials on Your Farm
- Major Purchases
- Risk Management: Be Careful!

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How Much R&D?

Farming Model

<u>Advanced Farming Practices</u>

- 10% of 4% of Land
- Look at extreme concepts
- Learn from failures as well as success
- Tolerate failure, but Never Give Up!

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R&D on Your Farm?

For every 1000 acres you farm

- 4% of Acreage to New and Advanced
  - "Continuous Improvement" on 960 acres
  - "New Practices" on 40 Acres
  - "Advanced Farming Practices" on 4 acres

Today's Topic:

An ADVANCED Farming Practice Study

Sunlight Harvest in wide rows of corn as an enabler of your Triple Bottom Line:

1. Sustainable Income
2. Preserve and build the soil
3. Feed and fuel the world

2004 Strip Intercropping

12-30” (30 ft) Strips

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2009 Strip Intercropping

6-30” (15 ft) Strips

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2012 Strip Intercropping

12-20” (20 ft) Strips

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2010: My First “Advanced Practice” Plot

4-30” (10 ft) Corn/Grass Strips

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2016 Experiment

Optimal Sunlight Opening Width

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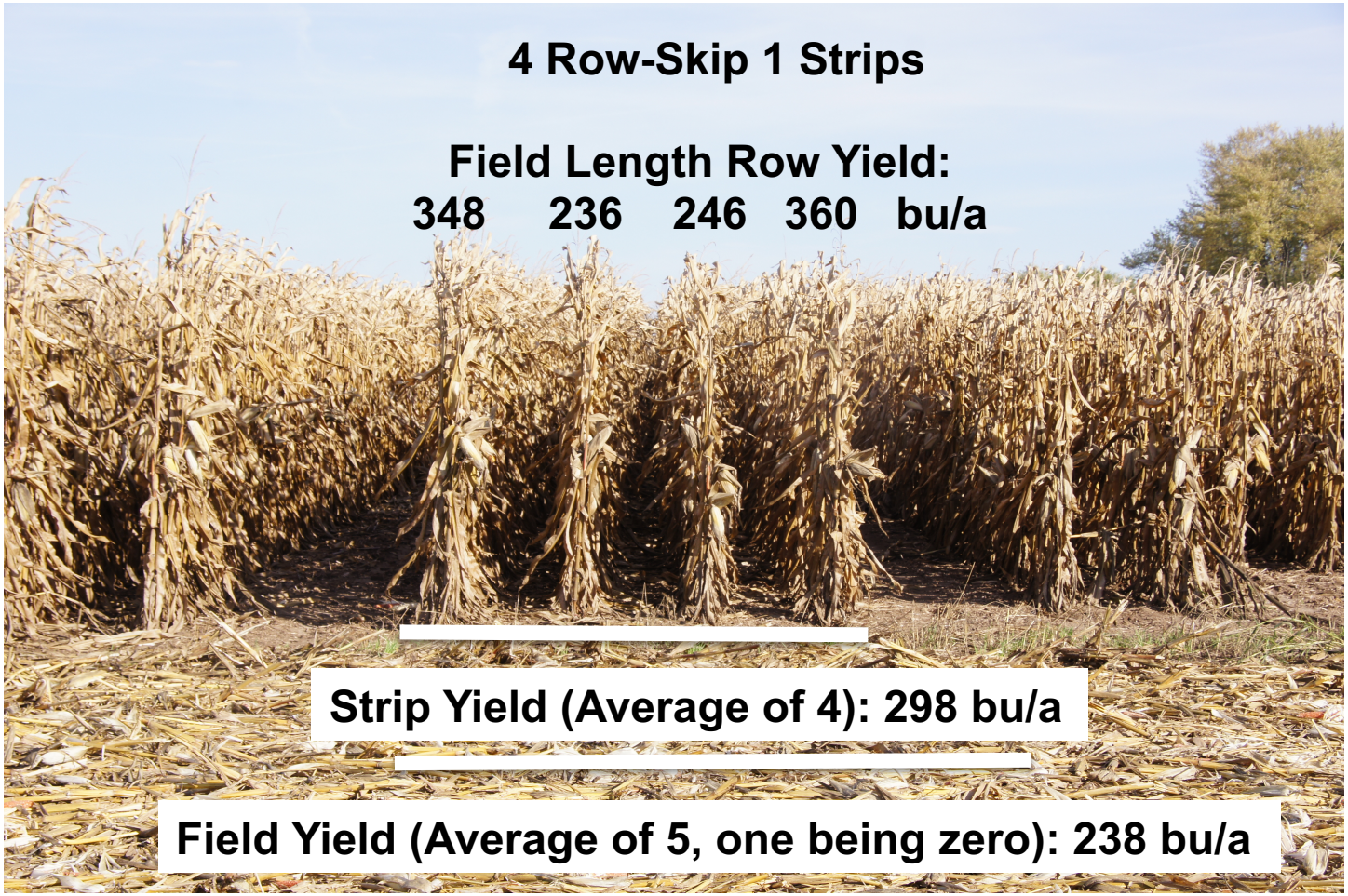
Row vs. Strip vs. Field Yield



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2017: Accidental Discovery

On a dare:

"If you're so smart….Why don't you plant corn in 40" rows?"

- Reno Rodeghiero

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2017 CVI “Advanced” Plot

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2017 Plot Field Day

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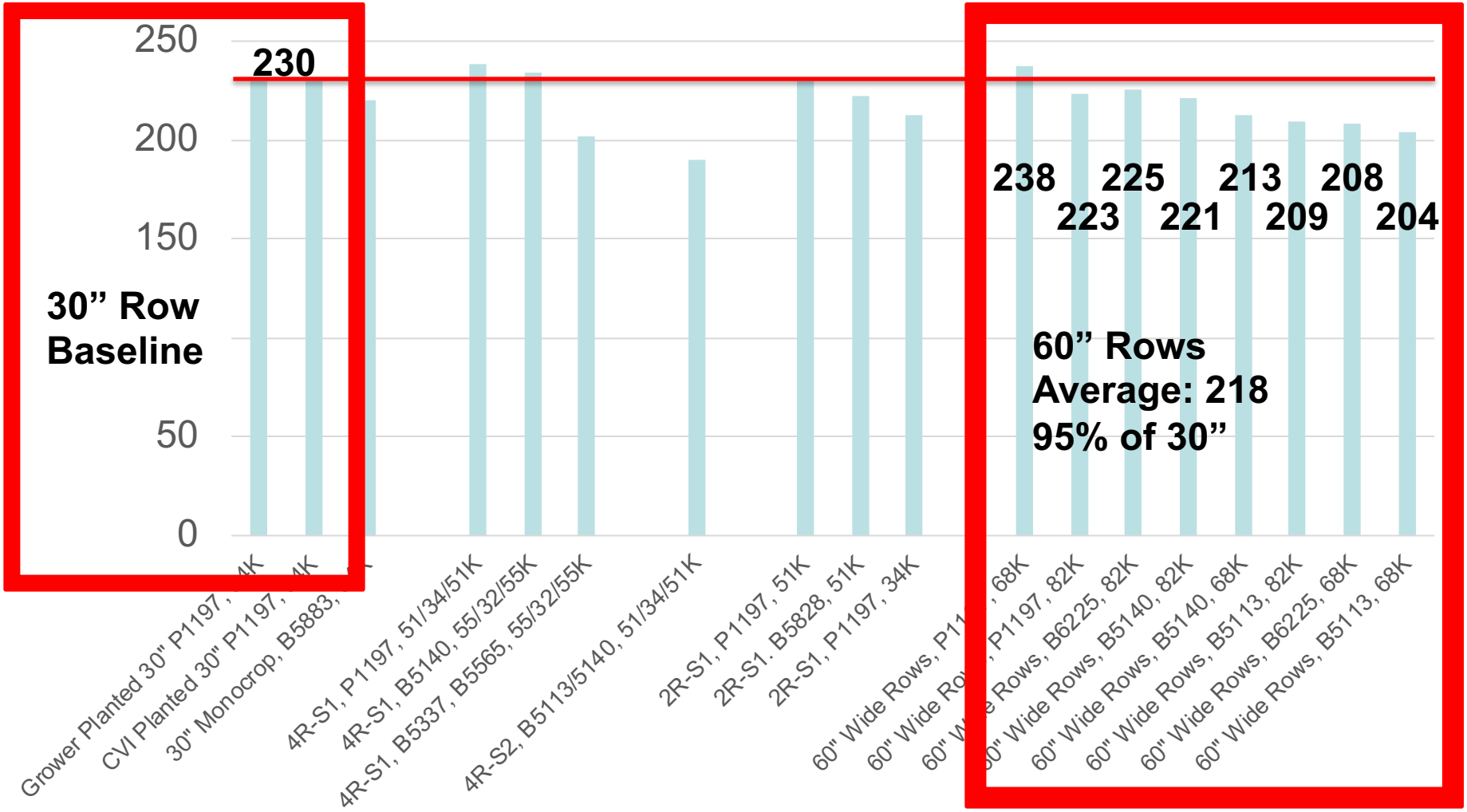
Field Yield of Various Plot Trials: 2017



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Seems like a lot of wasted sunlight…

4:25 pm 04 Jul 2017

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A Day in the Life in a Cornfield…

La Porte City, IA

01 July 2017

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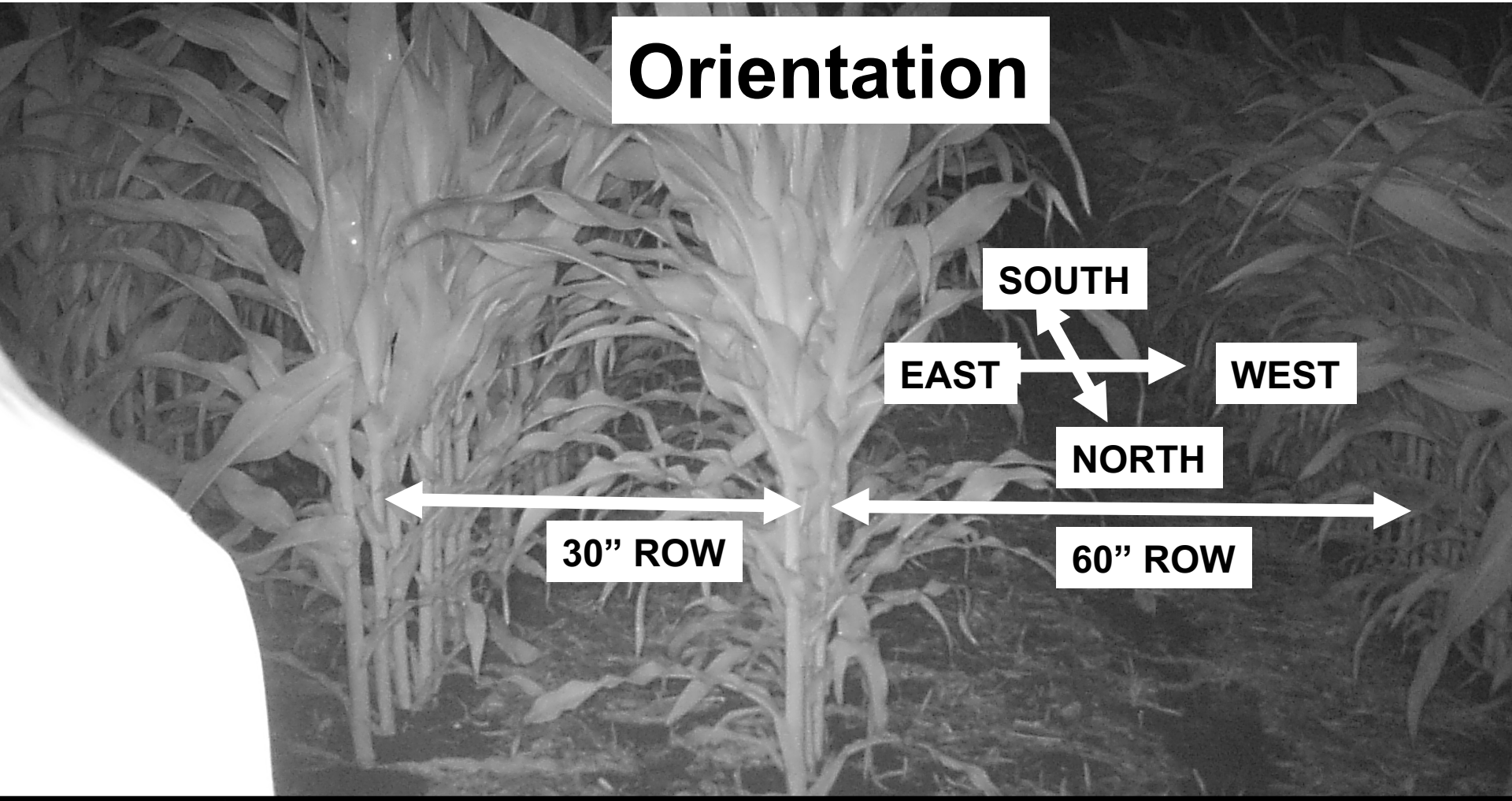

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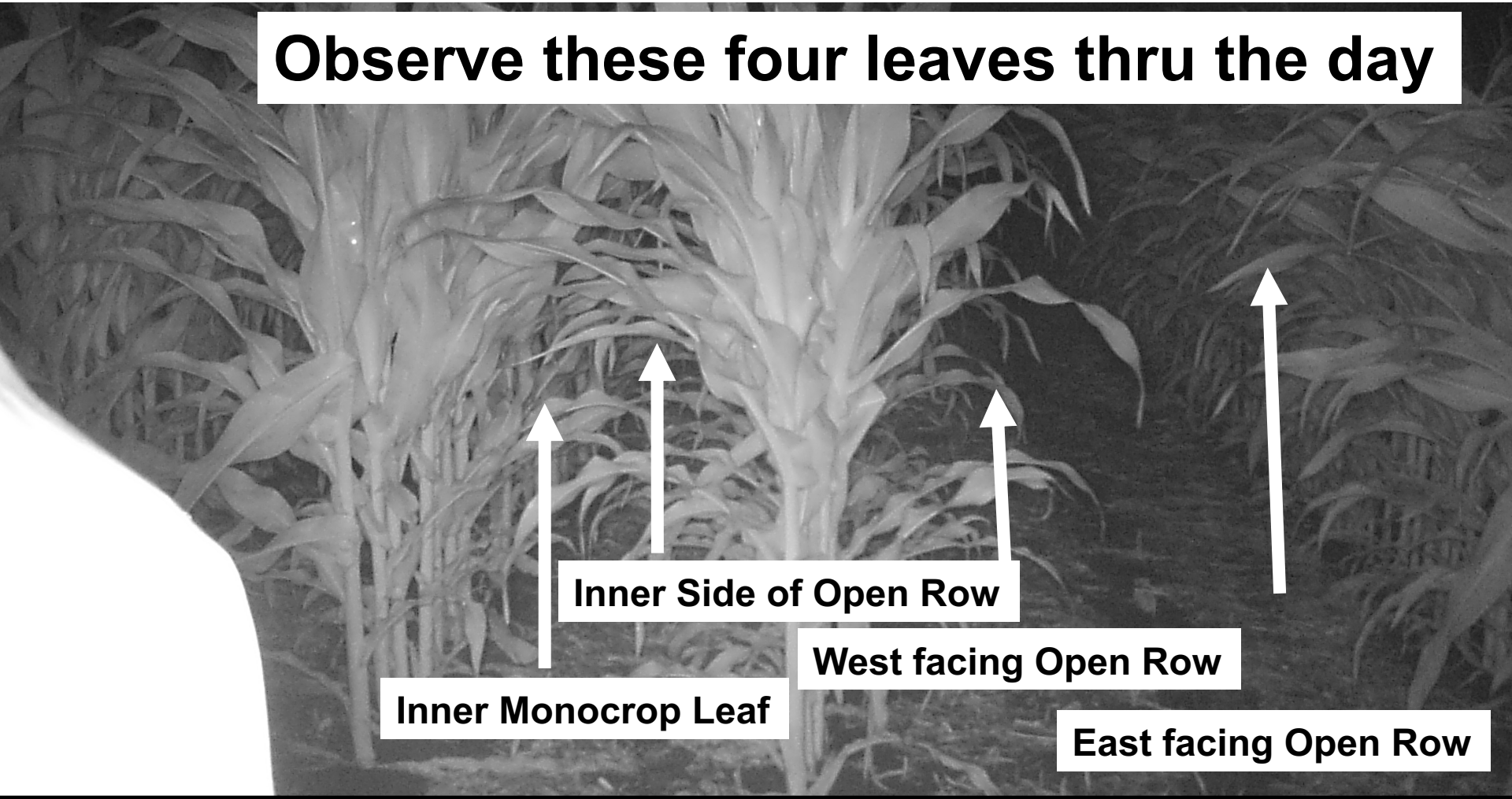

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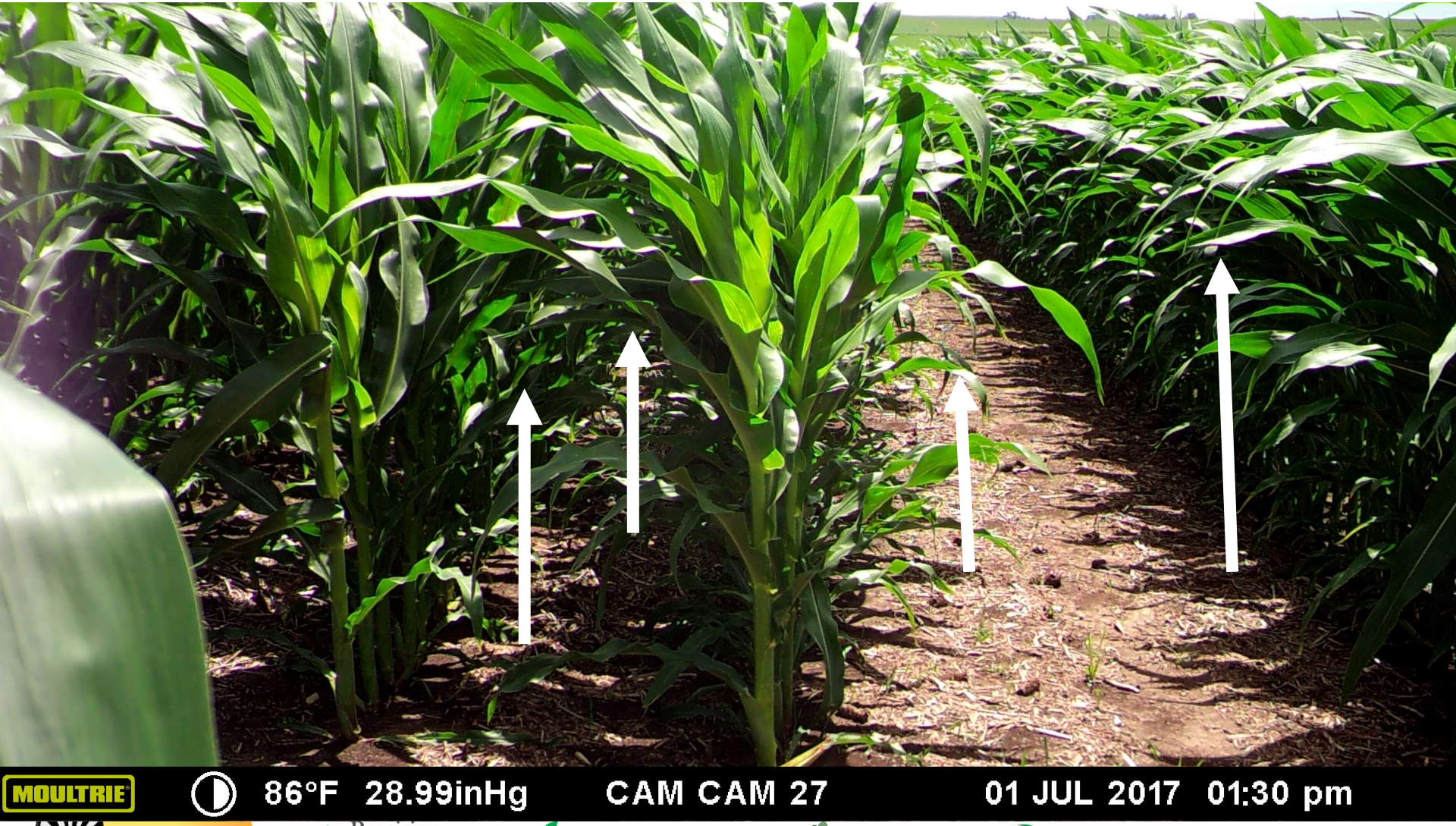

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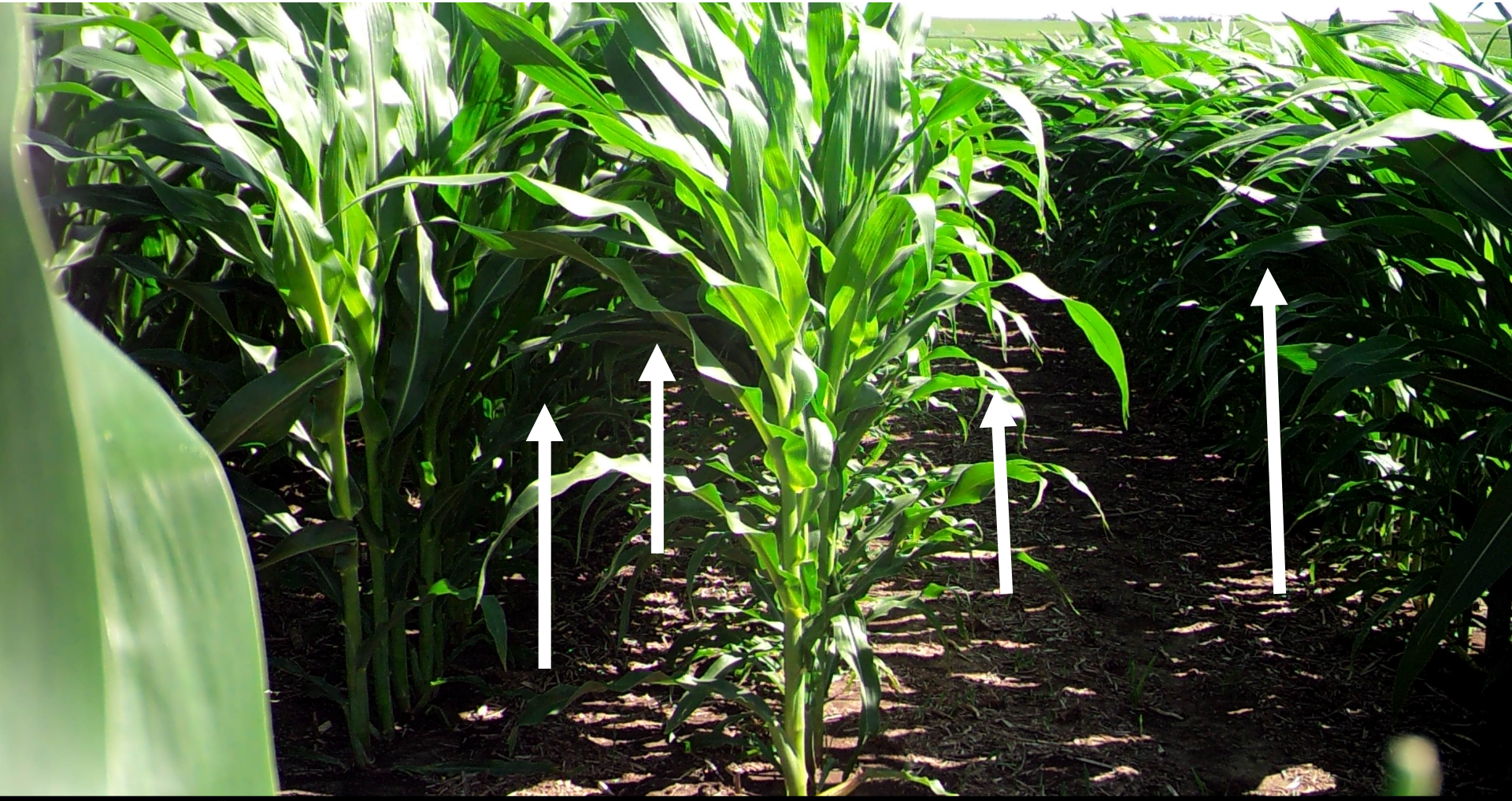

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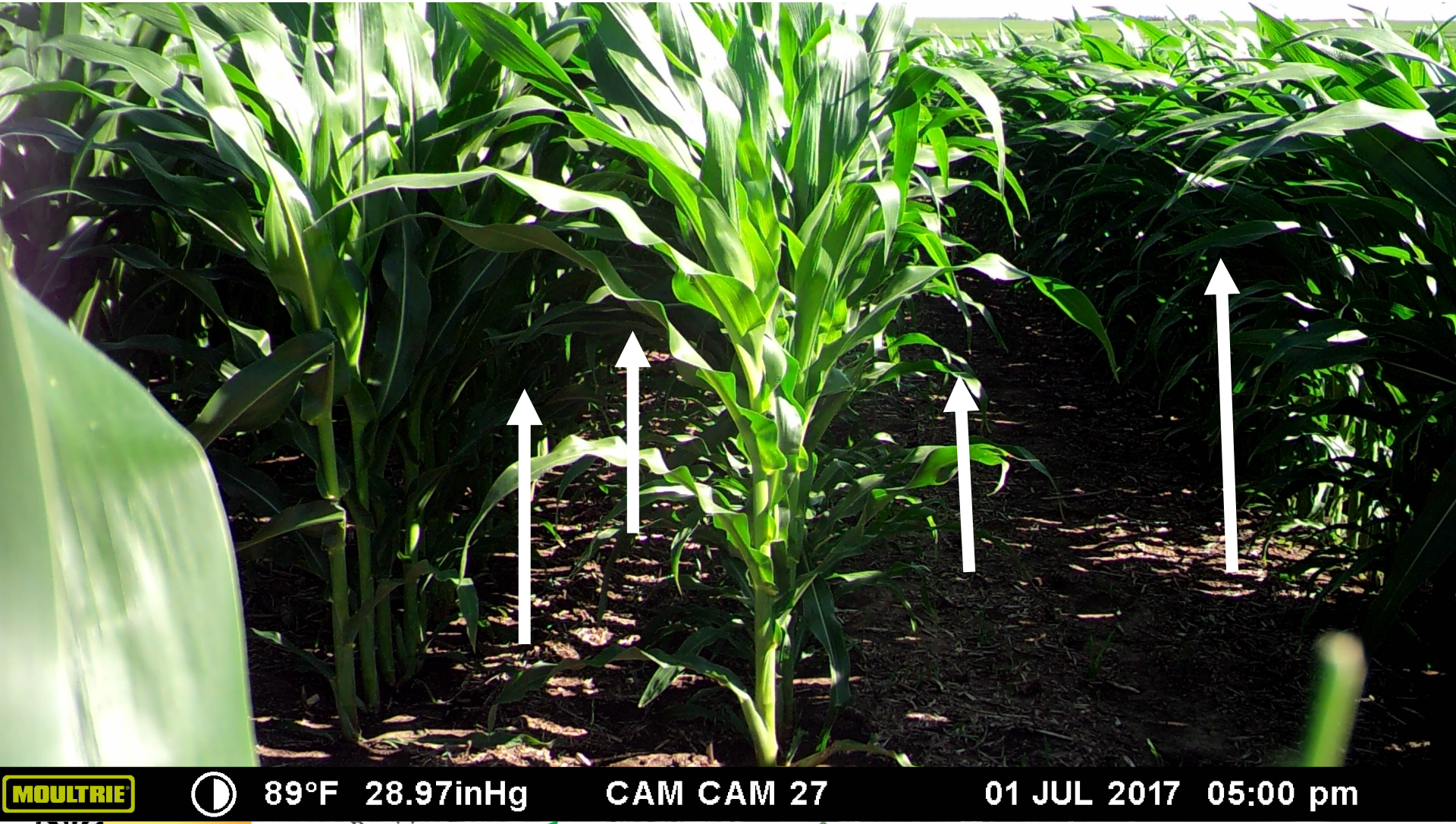

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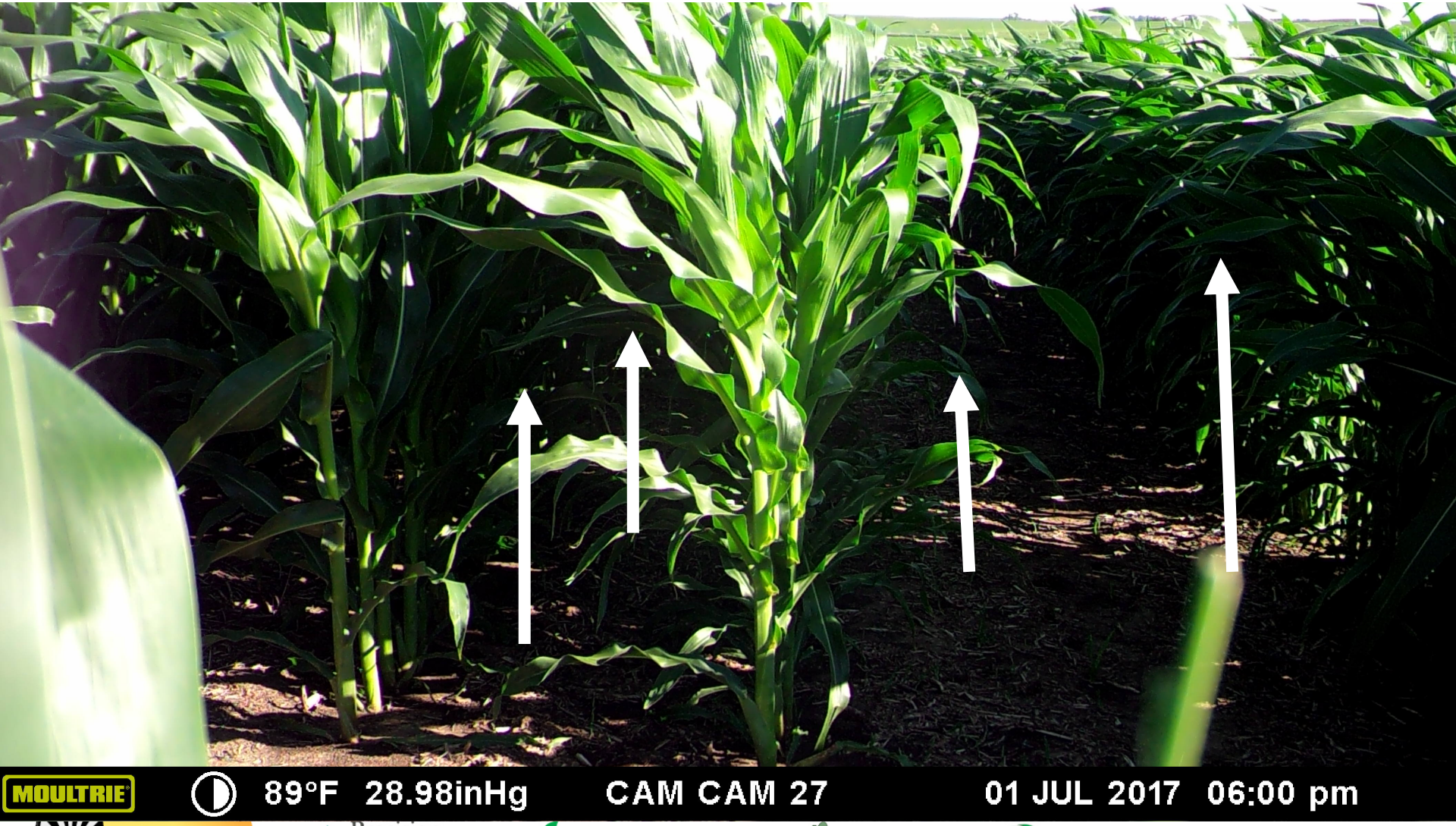

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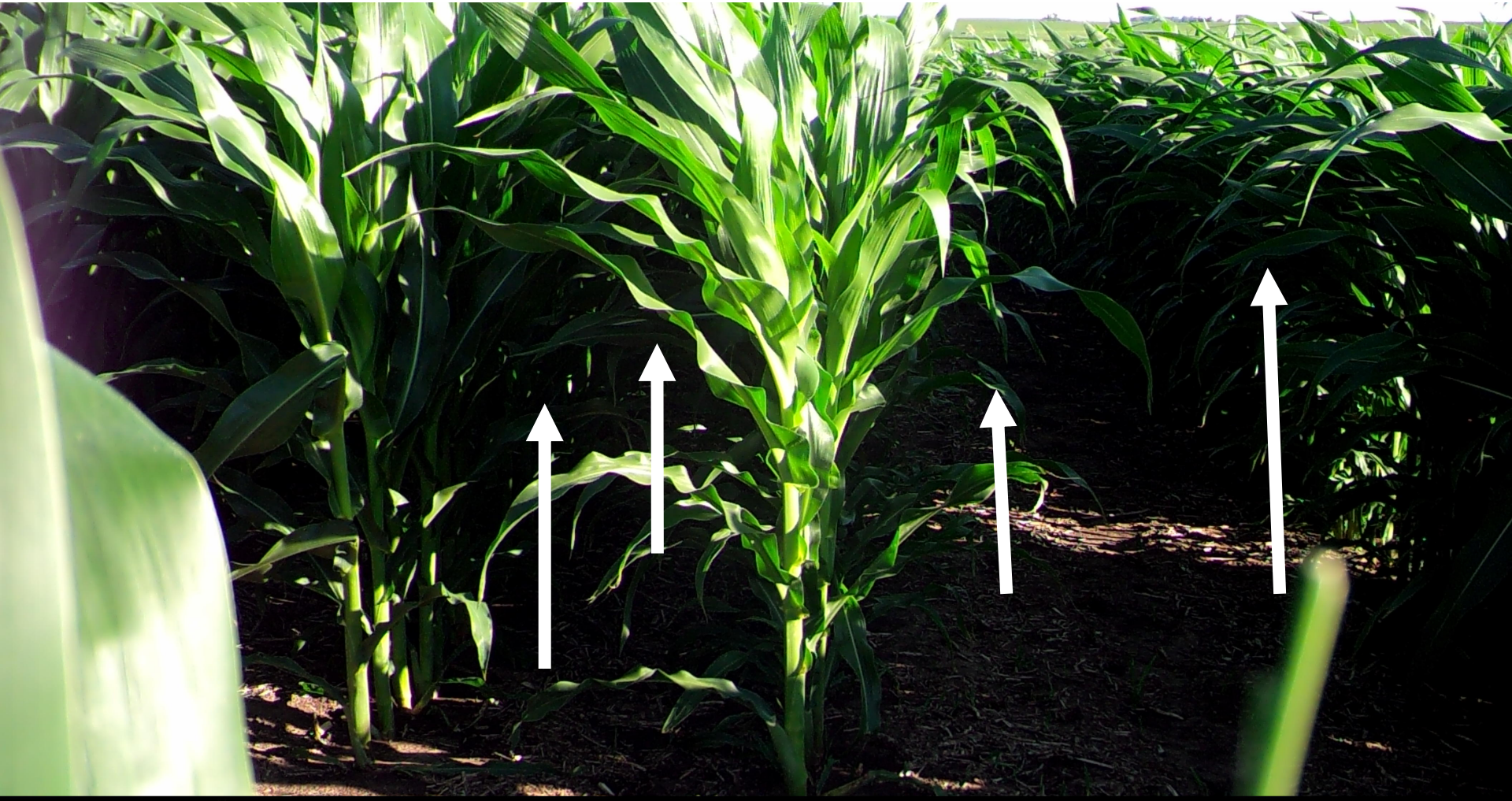

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“Breakthrough” Learning for 2017: 60” Rows

Much Simpler system to develop

- **Use existing planting equipment**
- **Conventional Meters**
- **Single Population across planter**
- **Single variety across planter**
- **Single Nutrient Application rates**
- **Excellent field access for high clearance equipment-all season**

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What to do with extra sunlight

- Cover Crops
- Soil Building
- Alternate crops
  - Hay, beans, etc.
- Grazing

Sunlight Utilization Opportunity

Grower: Loran Steinlage,
West Union, IA

flolofarms@gmail.com

Companion Crop Species:

- **Annual Ryegrass**
- **Buckwheat**
- **Radish**
- **Dwarf Essex Rape**

Row Configuration:
2 Row-Skip 1 (2RS1)
Photo Date: 23 Sep 2017

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Companion Crops Benefit from Additional Sunlight

Steinlage Plots, 60” opening
23 Sep 2017

Steinlage Plots, 30” opening
23 Sep 2017

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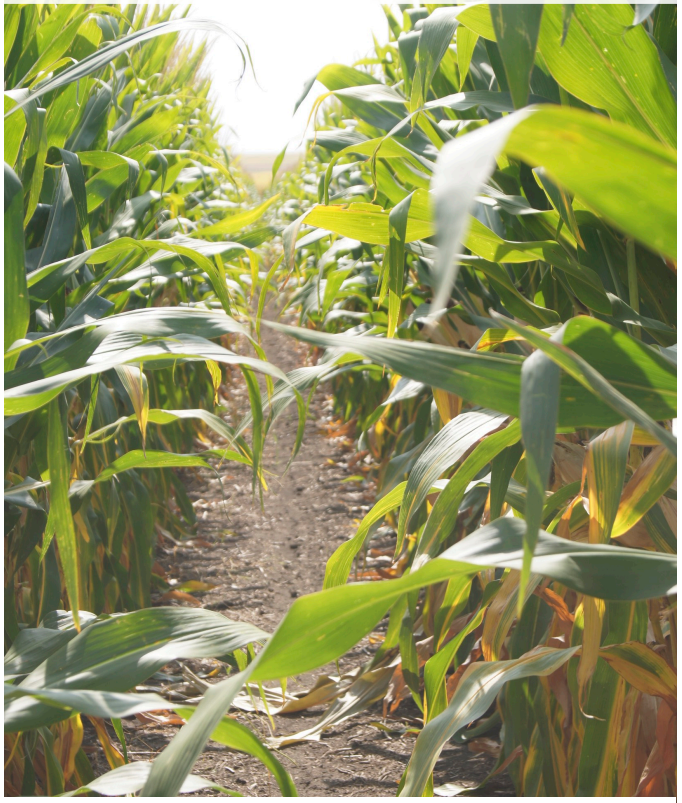
Companion Crops Species Selection and Management is Critical!

Steinlage Plots, 60” opening
23 Sep 2017



CVI Plots, 60” opening
17 Aug 2017

2018 “BTN Plots”

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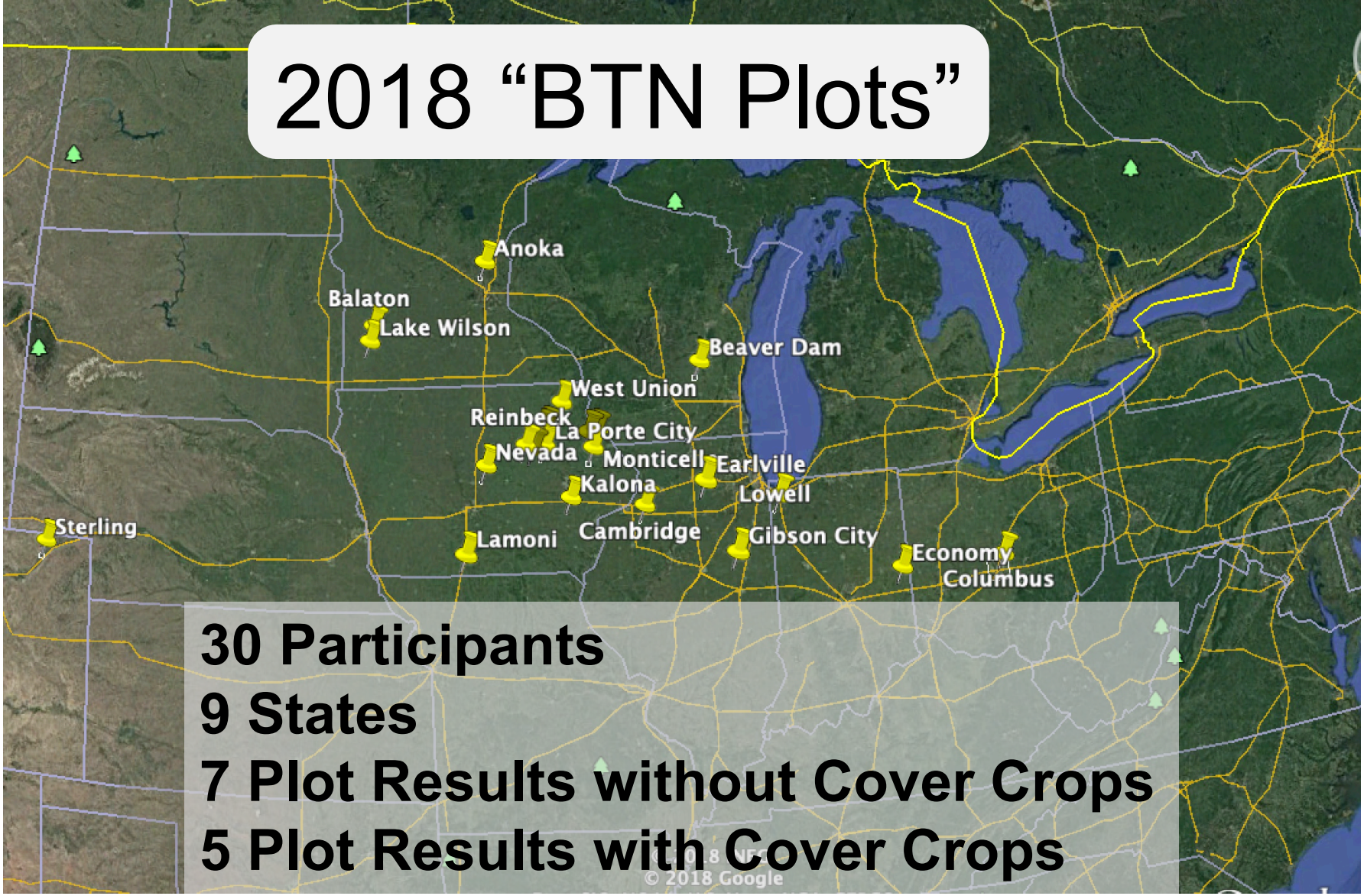
2018 “BTN Plots”



30 Participants
9 States
7 Plot Results without Cover Crops
5 Plot Results with Cover Crops

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A few of the 2018 BTN 60” Row Plot Cooperators

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Several 2018 Plots

The “Sweet Spot:” Grazing

The Luckiest Cows in Earlville, IL

”Where’s the grass?”

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2018 BTN Plots

30 Participants
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7 Plot Results without Cover Crops
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Results:

Average Yield Decrease with 60” Rows vs. 30”

5%

Statistics: 95% confidence range is -17% to +9%

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The Bottom Line

You can dedicate half of your corn growing space to improving your Triple Bottom Line by giving up 5% of your corn yield.

A Very Special Thank You

- BTN Plot Participants
- Statistical Plot Participants
- Many have asked to remain anonymous
- They were the source of many of the photos and the data presented today
- Leroy Deichman

CVI

Bob Recker
116 W Schrock Rd
Waterloo, IA 50701 USA
Mobile: 319-240-2200

Cedar Valley Innovation LLC

What's in Your Field?

e-mail: cedarvalleyinnovation@gmail.com
cedarvalleyinnovation.com

Thank You!

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Alternatively upload the presentation here: https://files.lessitermedia.com/index.php/s/Y4w0NIMVTq8xHgB

We will have your presentation loaded on the computer and ready for you when you arrive.

***NTF* will provide the computer and projector. Plan on giving your presentation from the podium on the laptop computer**

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