UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

Farm Management Competitions 2019

University of Nebraska Lincoln

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TESTING AG PERFORMANCE SOLUTIONS

Farm Management Competitions
TAPS Banquet
December 12th, 2019

Leadership Team:

Daran Rudnick, Chuck Burr, Matt Stockton,
Cody Creech, Jessica Groskopf, Robert Tigner, & Jason Warren

Management Team:

Tsz Him Lo, Turner Dorr, Hope Nakabuye, Abia Katimbo,
Jared Daily, Jacob Nickel, & Krystle Rhoades

University of Nebraska Lincoln

Staying Connected

- Digital Newsletter (https://taps.unl.edu/newsletter)
  - Method of sharing news, upcoming events, etc. with contestants & supporters
- Tips from TAPS
  - Written articles analyzing 2018 data of each decision
- Field Tours/Workshops/Banquet
- Summer Intern visit from Tufts University student
  - Focus on producer interviews & video production
  - In coordination with *Ogallala Water Coordinated Agriculture Project*
- Case Studies
  - Focus on each management decision
- Participant Interviews
- Articles (e.g., Nebraska Farmer, CropWatch)
- Social Media (e.g., Twitter, Facebook)

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Outstanding TAPS Advocate Award

Presented to

Nebraska Water Balance Alliance (NEWBA)

University of Nebraska Lincoln

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Competition Information

University of Nebraska Lincoln

2019 Participants

Nebraska:

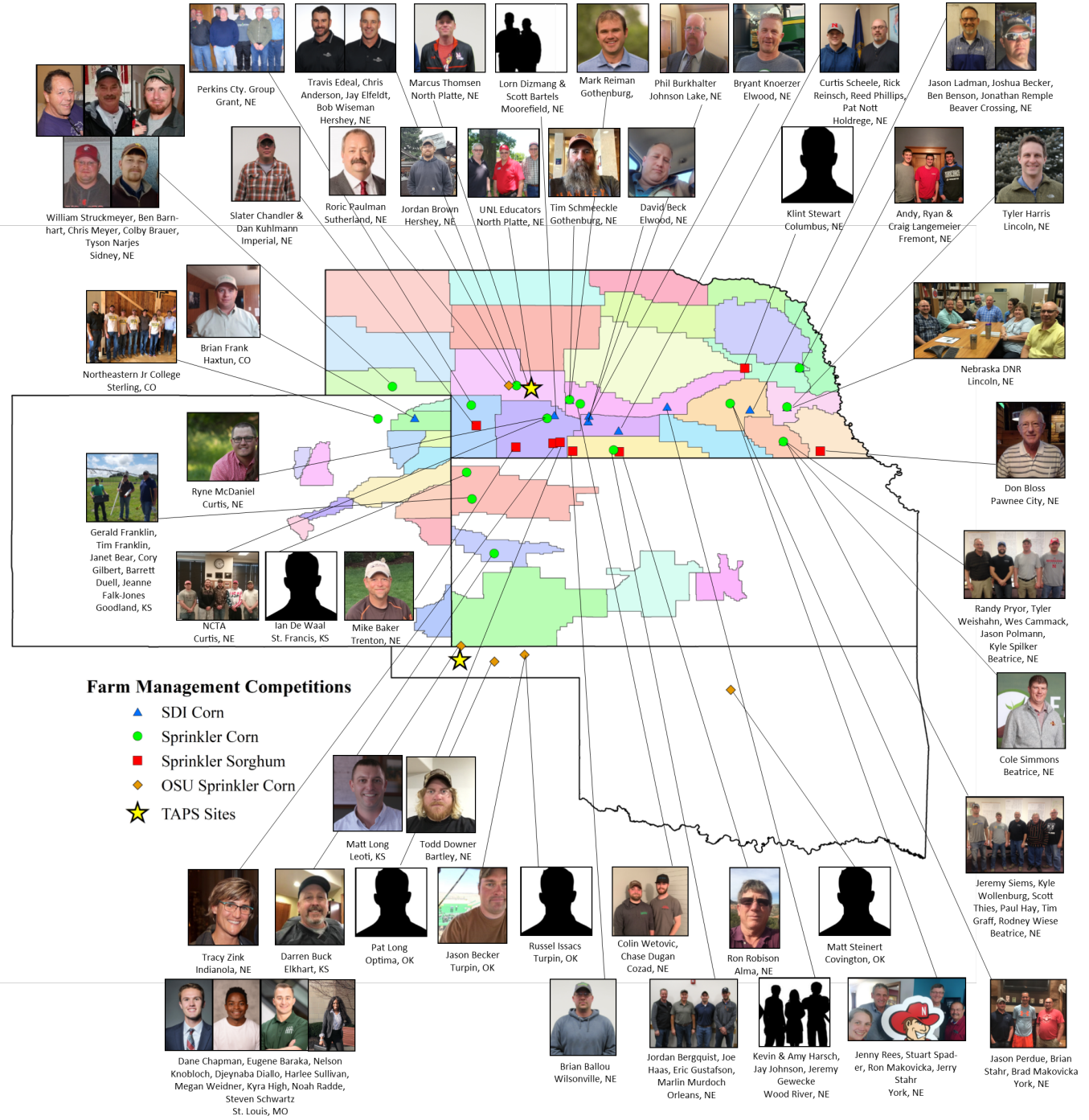
Sprinkler Irrigated Corn
- 24 Teams
- ~ 99 Participants

Sprinkler Irrigated Sorghum
- 10 Teams
- ~ 18 Participants

SDI Corn
- 16 Teams
- ~ 36 Participants

Oklahoma:

Sprinkler Irrigated Corn
- 9 Teams
- ~ 7 Participants



OSU TAPS
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Thank you 2019 Partners & Sponsors

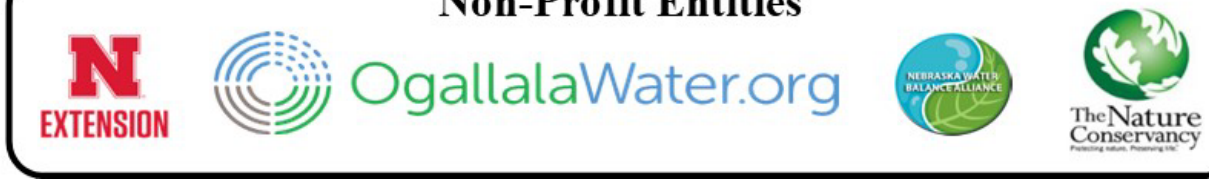
Agricultural Industries

Commodity Boards & Regulatory Agencies

Seed Companies

Financial Institutions

Non-Profit Entities



Awards

1. **Most Economically Profitable**
   Amount = $2,000

2. **Highest Input Use Efficiency** – Water × Nitrogen Intensification Performance Index (WNIPI)
   Amount = $1,000

$$WNIPI = \frac{\left(\frac{Y_{Farm}}{Y_{Control}} - 1\right)}{\left(1 + \frac{I_{Farm}}{ET_{Control}}\right) \times \left(1 + \frac{N_{Farm}}{ANU_{Control}}\right)}$$

3. **Greatest Grain Yield**
   Amount = $500 × (Percent of Most Profitable Farm)
   Example: Farm 1 has highest yield, but only profited 78% of the most profitable farm.
   $500 × 0.78 = $390

Competition Overview

Location:

- North Platte, NE

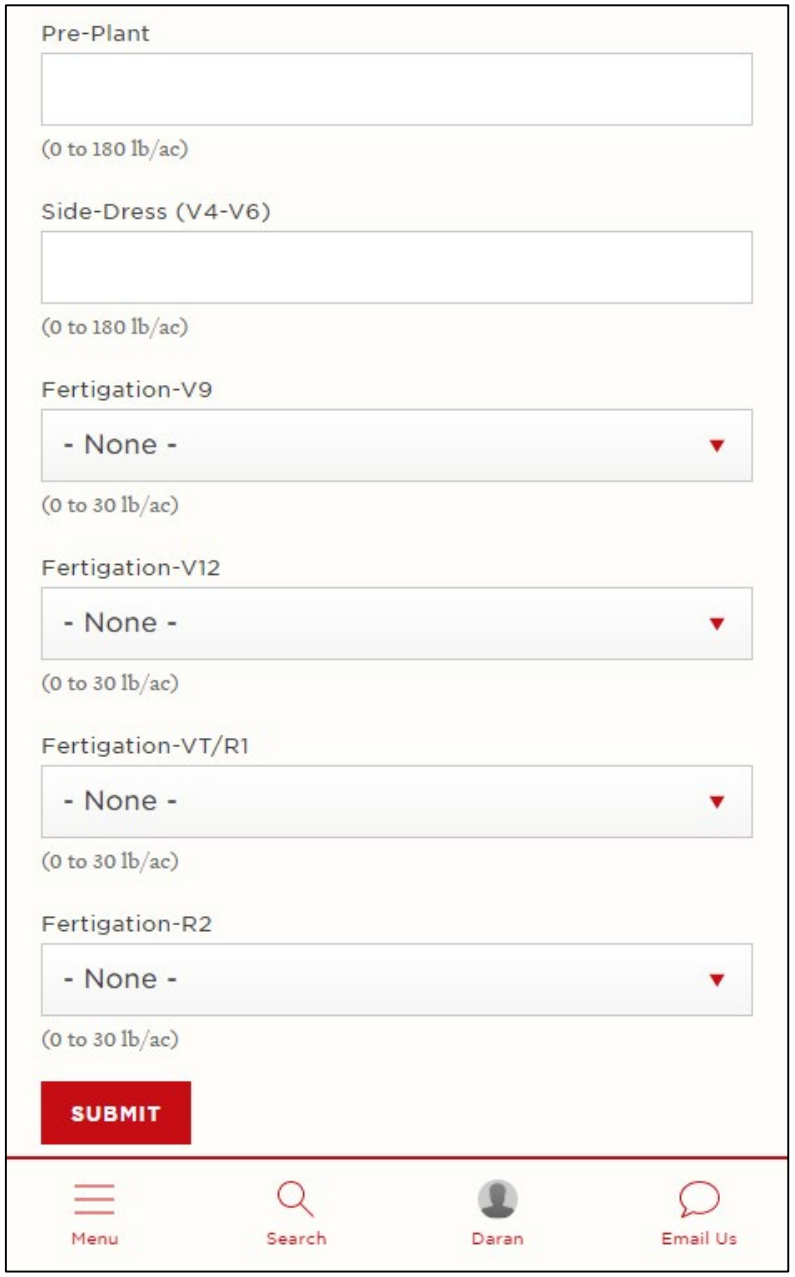
Simulated Farm Size:

- Sprinkler Corn: 3,000 acres
- Sprinkler Sorghum: 1,000 acres
- SDI Corn: 1,000 acres *equipment compliment represents 3,000 acres*

Management Decisions:

- Insurance Coverage
- Hybrid and Seeding Rate
- Nitrogen Management
- Irrigation Management
- Marketing

Real-time decisions are logged on TAPS.unl.edu



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Technology and Services Provided

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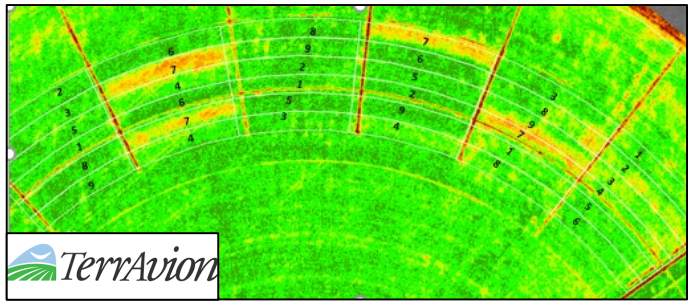
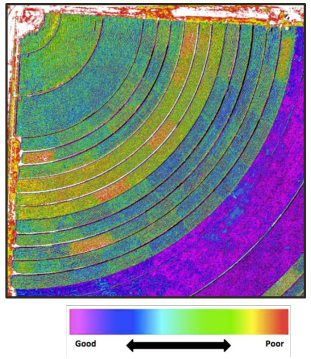
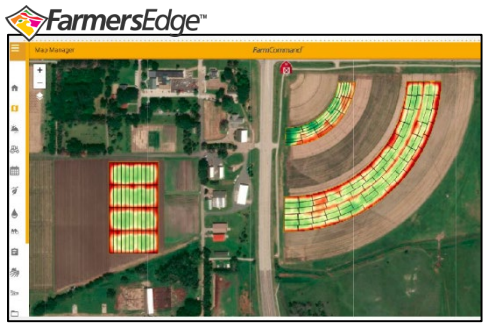
---------- Imagery ----------

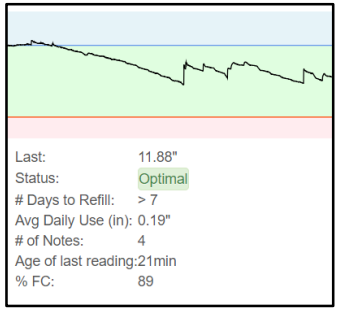


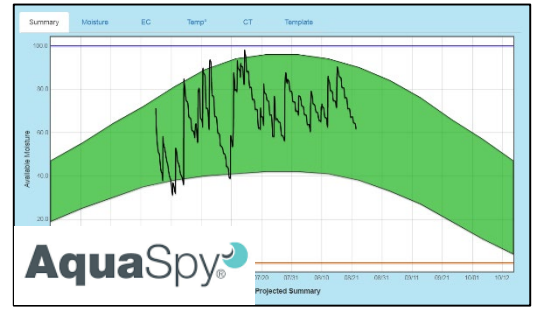




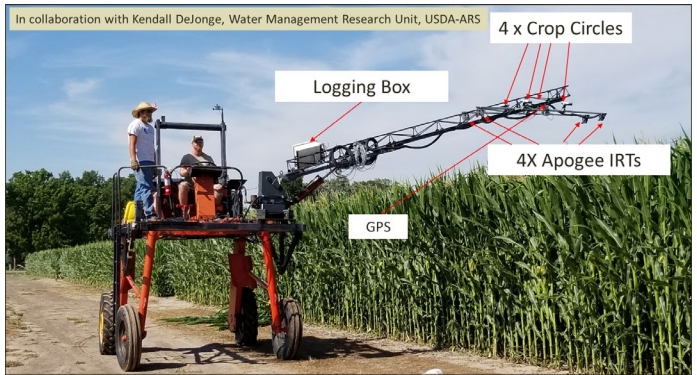
---------- Weather Conditions ----------

---------- Soil Water Monitoring ----------





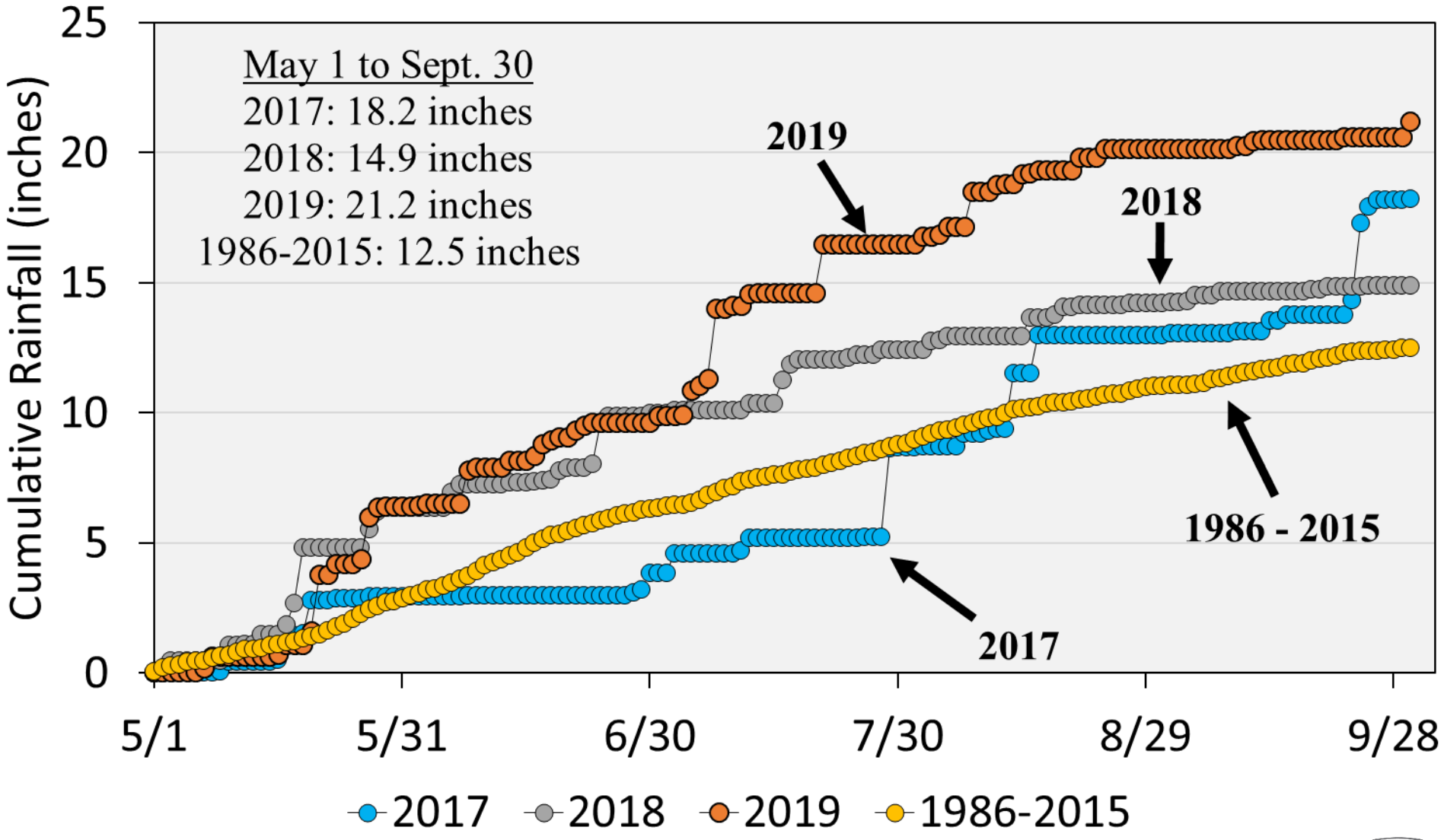
--- Plant Sensing ---



------- Soil & Plant Sampling -------

--- Scouting ---

Rainfall



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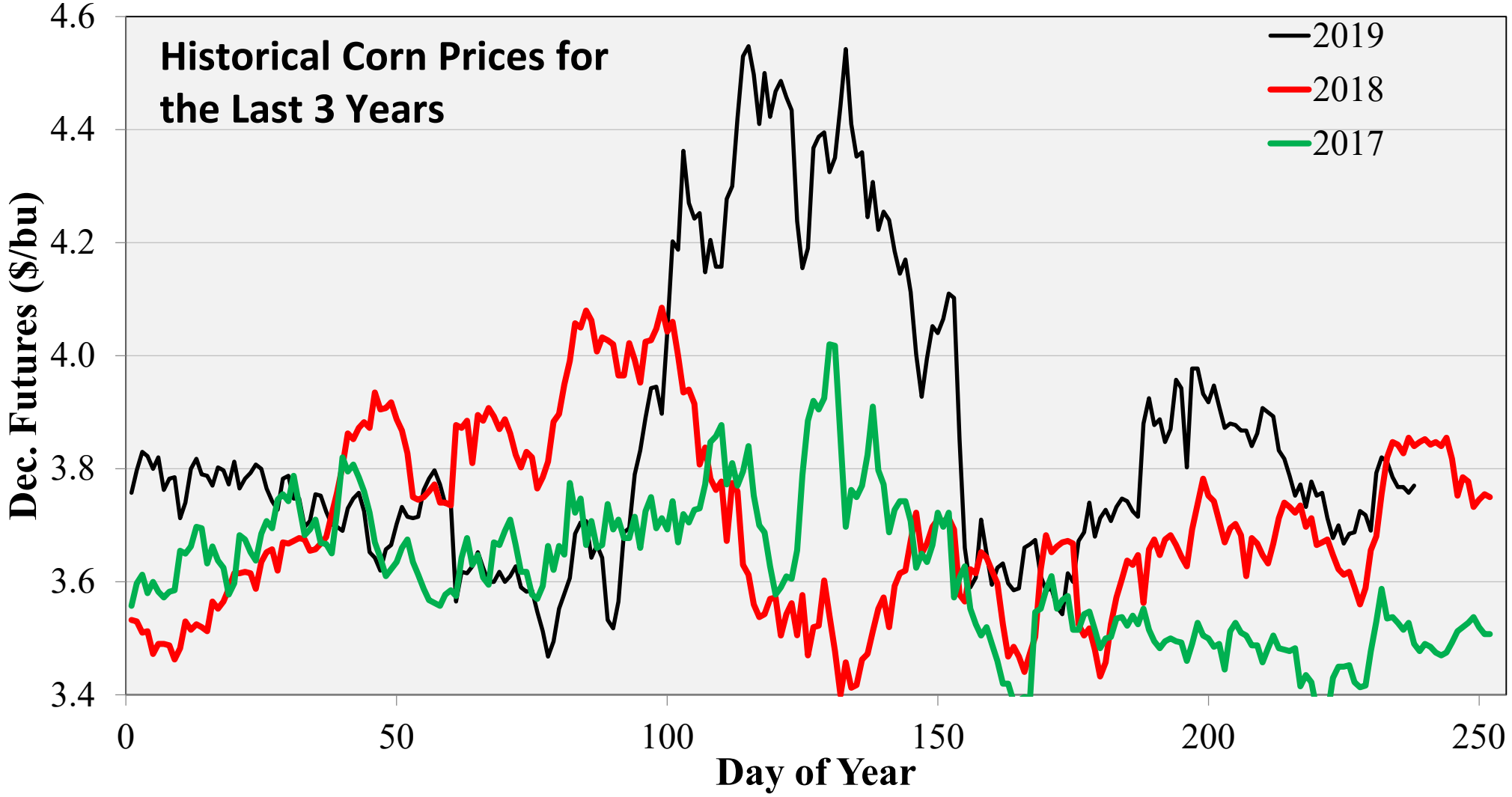
Market Conditions



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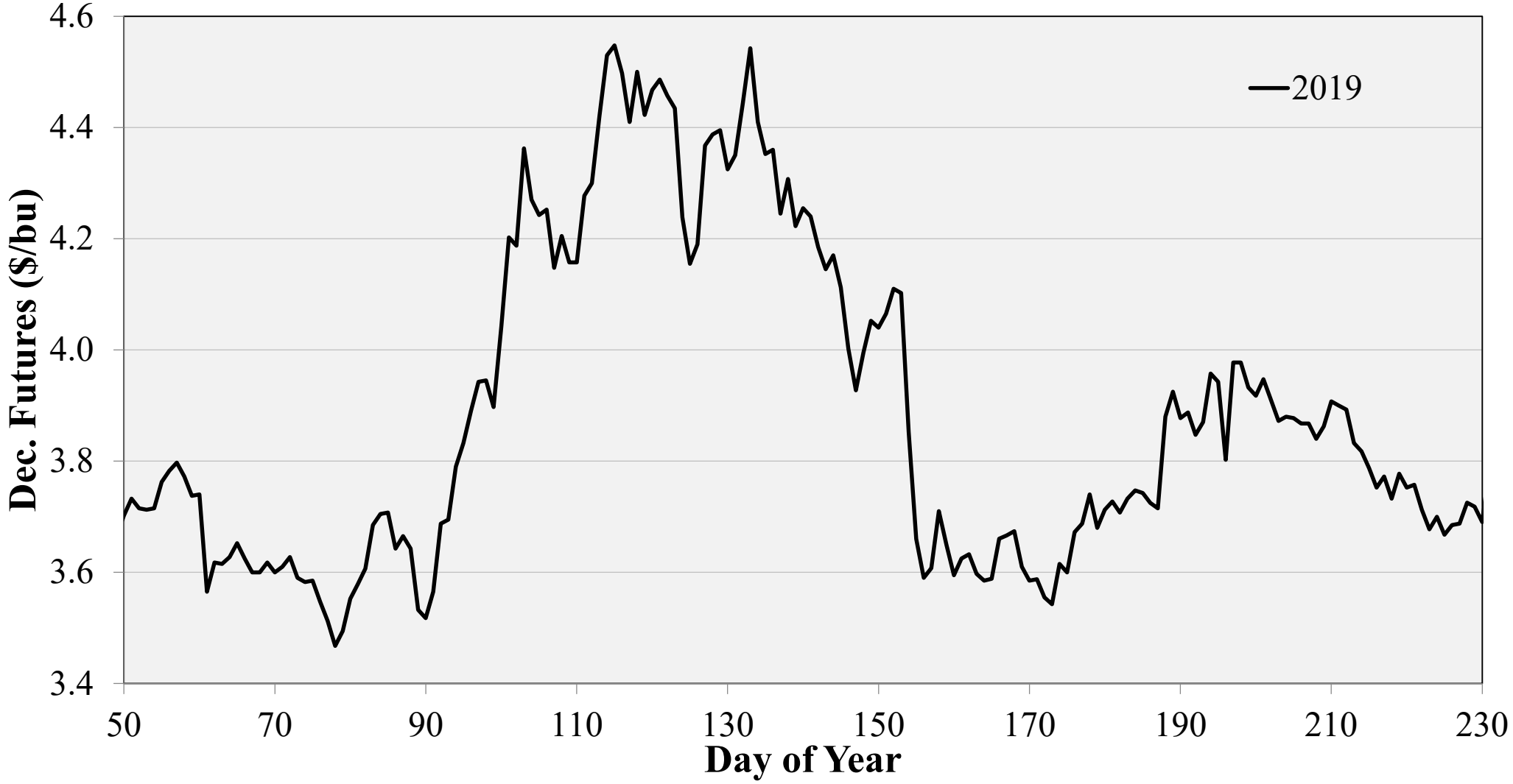
Market Conditions



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Sprinkler Sorghum

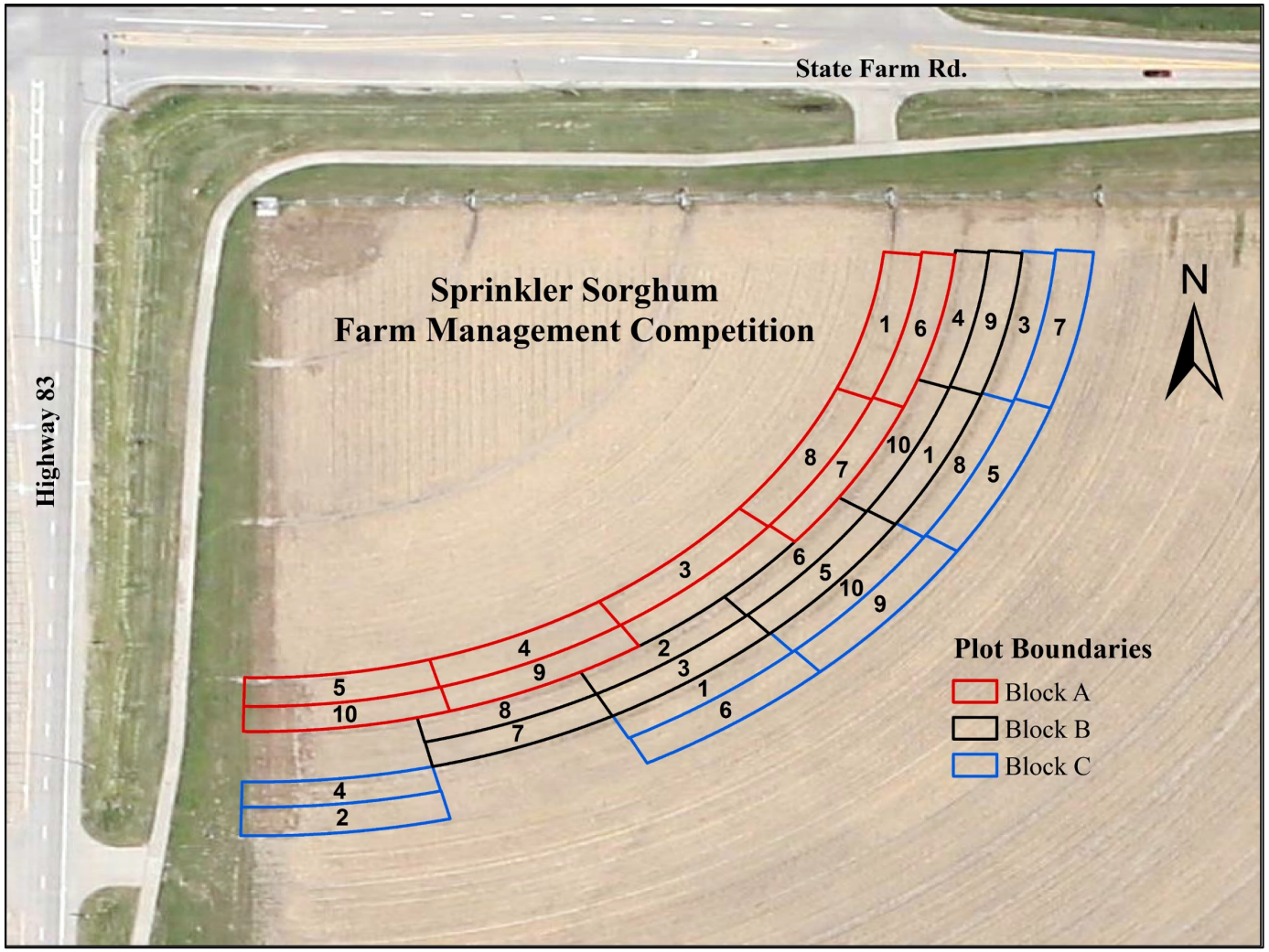
Nebraska Grain Sorghum Board

SORGHUM THE SMART CHOICE

Sprinkler Sorghum Field Description

10 Farms

- Tracy Zink
- Ron Robinson
- Klint Stewart
- Brian Ballou
- Mike Baker
- UNL Educators
- Slater Chandler
- Dan Kuhlmann
- Don Bloss
- Todd Downer



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Nebraska Grain Sorghum Board

SORGHUM THE SMART CHOICE

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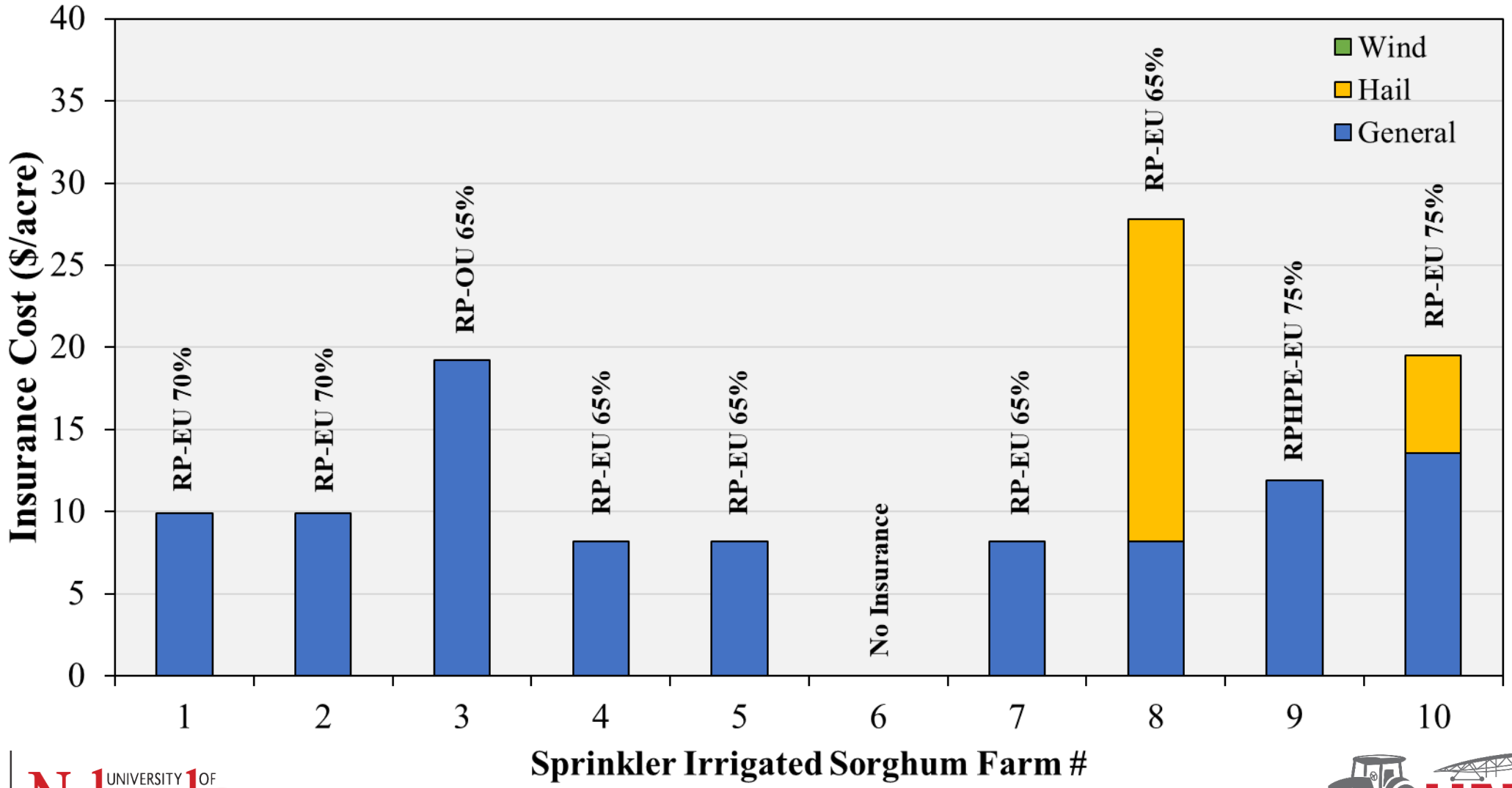
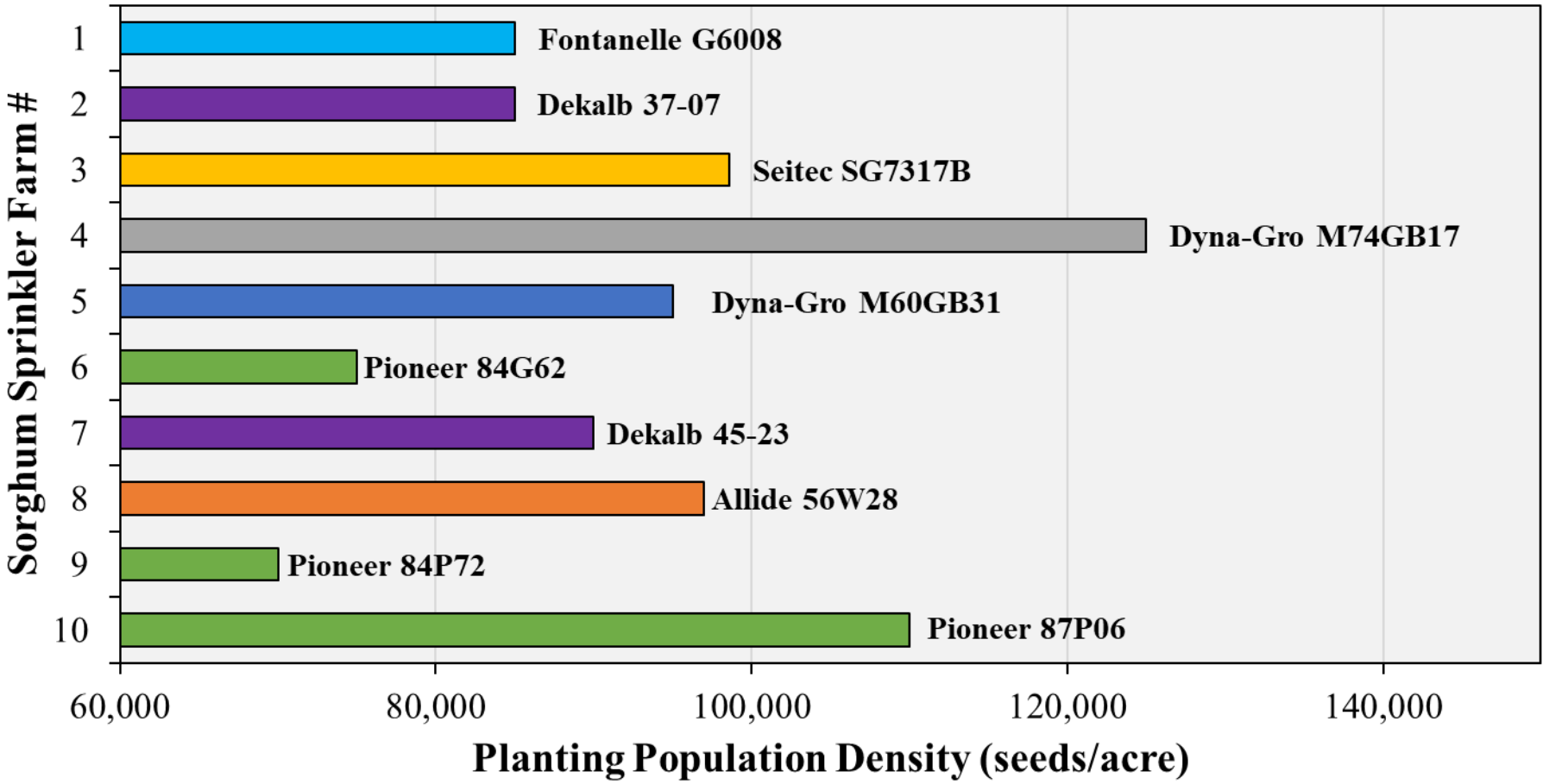
Sorghum: Insurance



Sorghum: Hybrid Selection & Seeding Rate



10 Hybrids

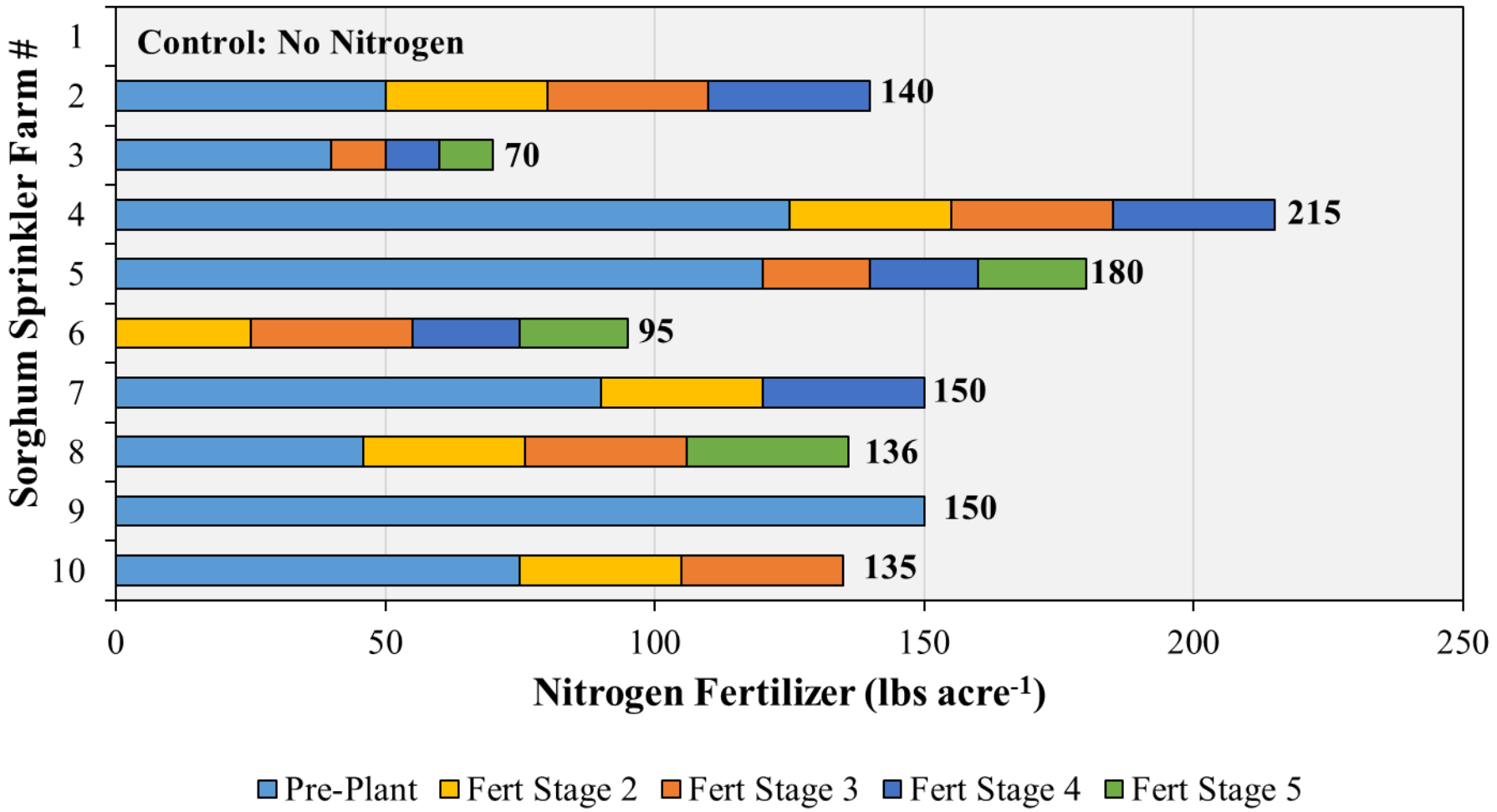
Population:

- Min: 70,000
- Avg: 93,060
- Max: 125,000

Cost per Acre:

- Min: $13
- Avg: $18
- Max: $28

Sorghum: Nitrogen Fertilizer



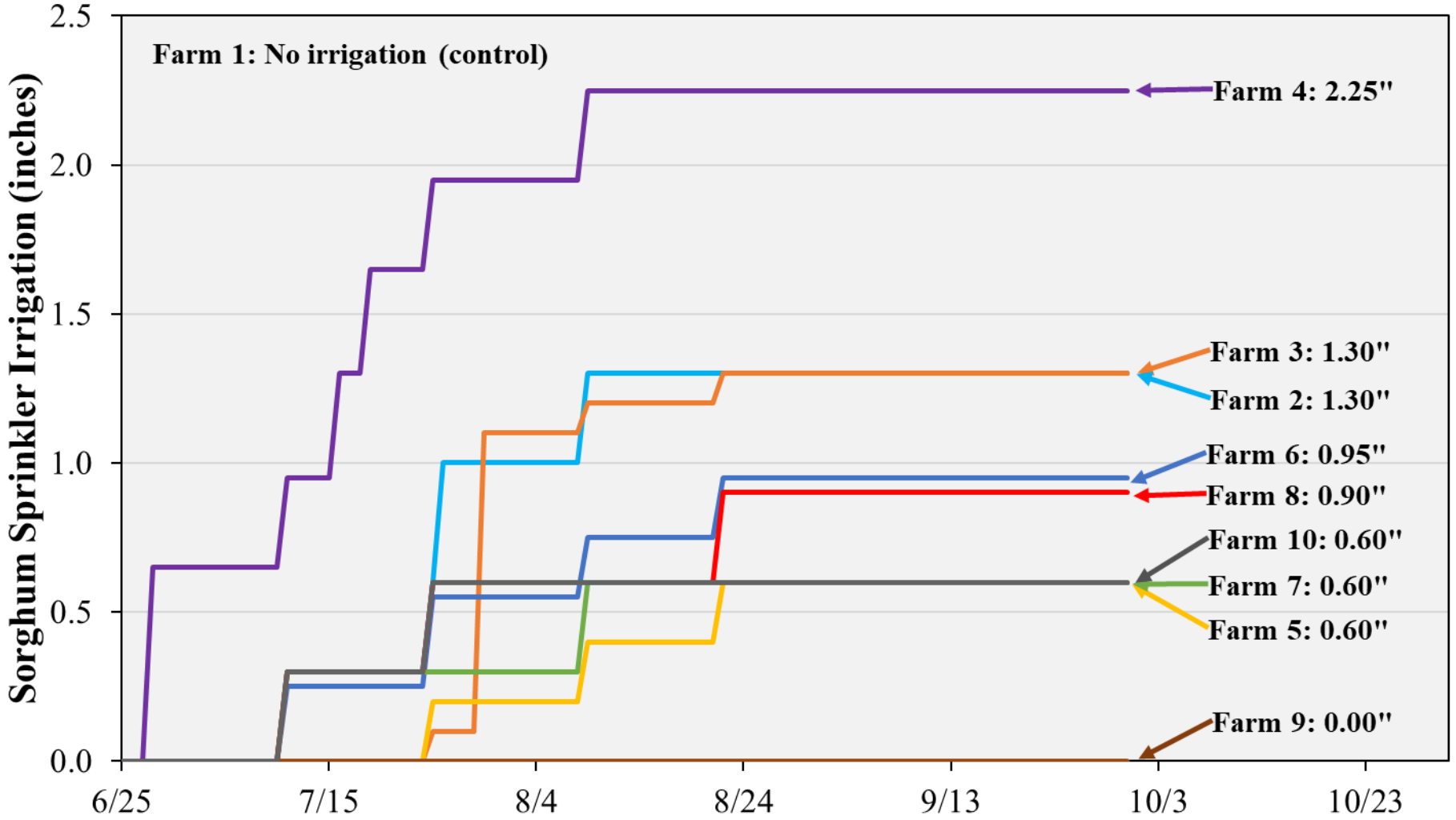
Pre-Nitrogen (lb/ac)

- Min: 0
- Median: 75
- Avg: 77
- Max: 150

Fertigations (lbs/ac)

- Min: 0
- Median: 60
- Avg: 64
- Max: 95

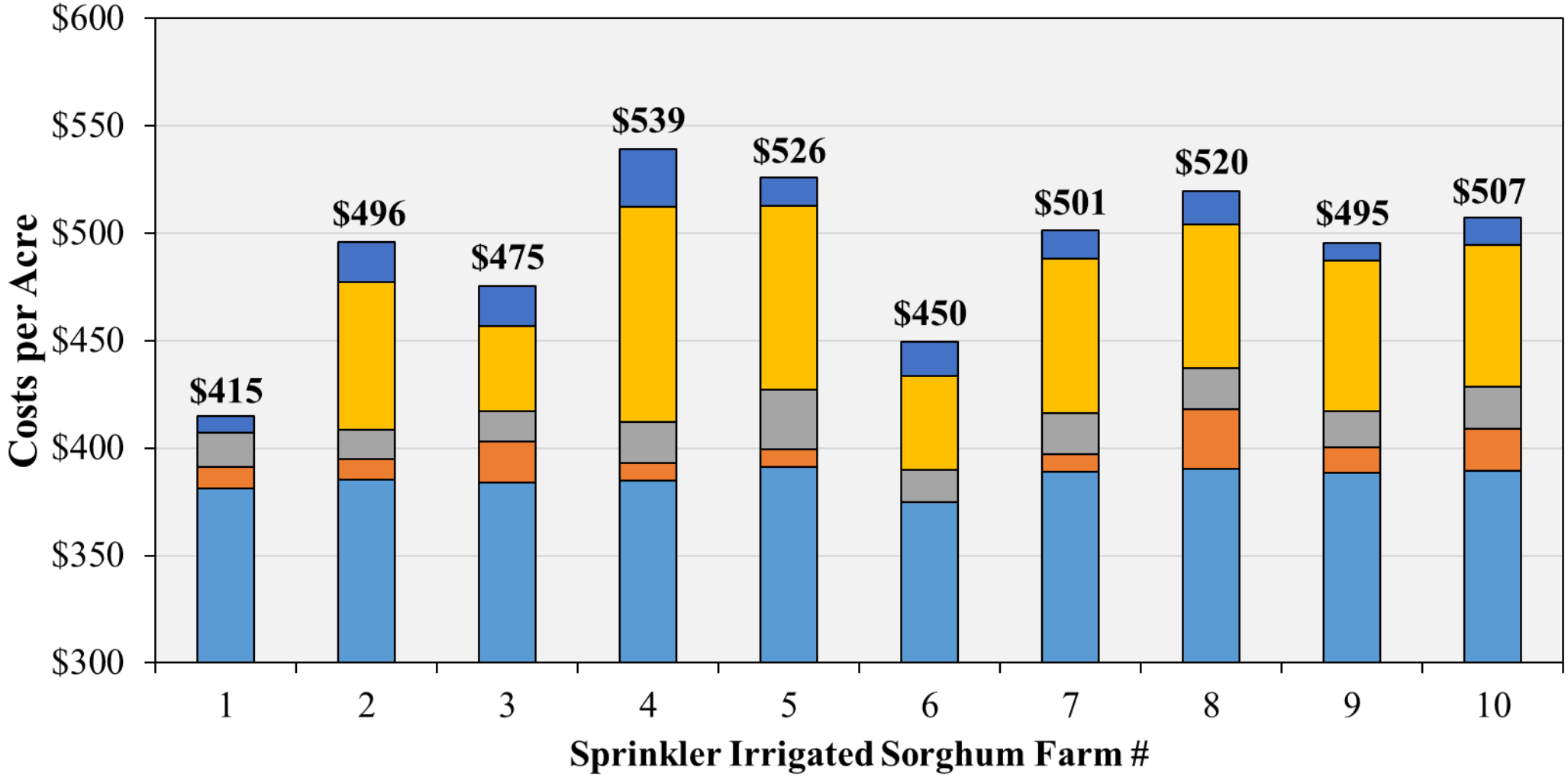
Sorghum: Irrigation



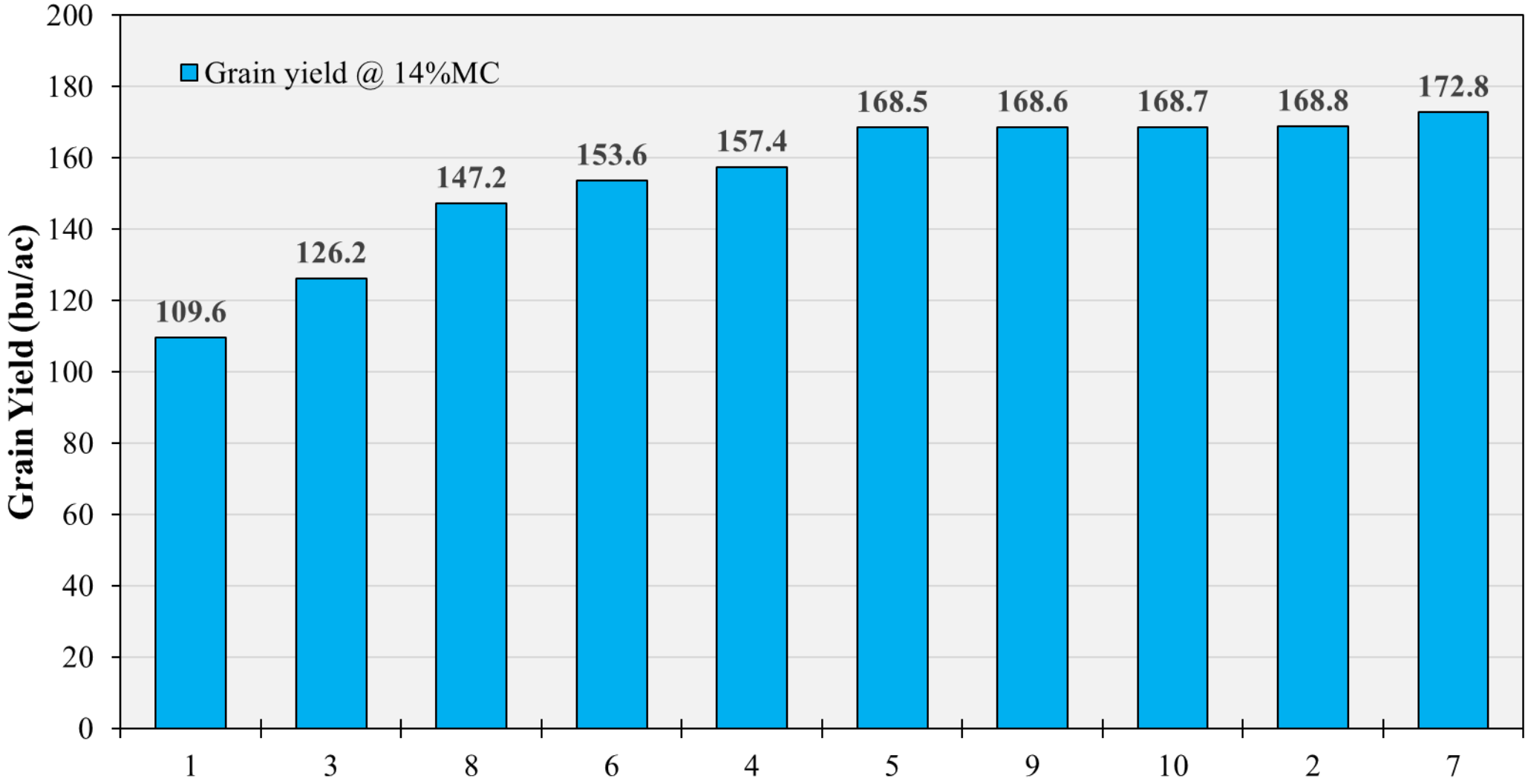
Seasonal (inches)

- Min: 0.00
- Median: 0.90
- Avg:0.94
- Max: 2.25

Sorghum: Costs



Sorghum: Yield



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Sprinkler Sorghum Competition
Highest Grain Yield Award

Top 3: Mike Baker

UNL Educators

Ron Robison

Winner: Mike Baker

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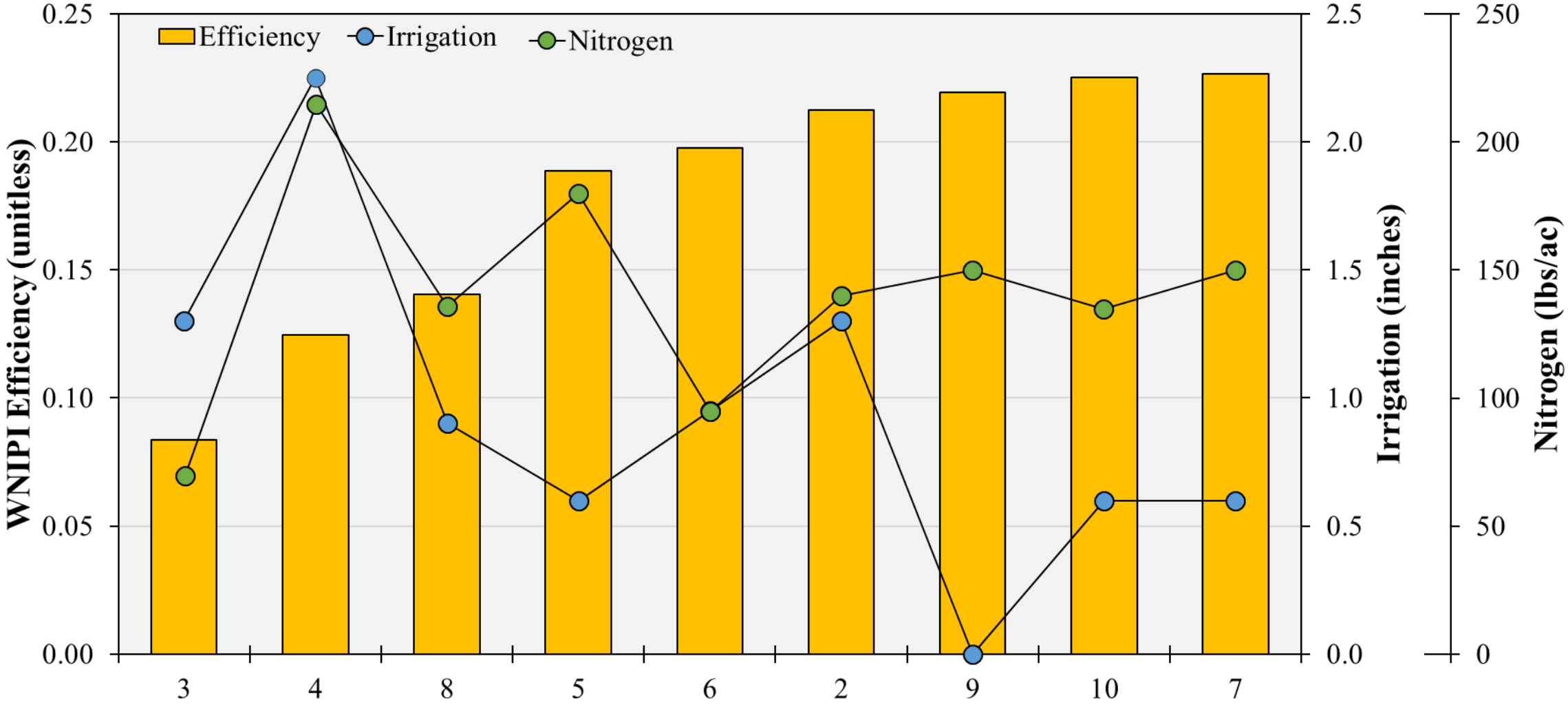
Nebraska Grain Sorghum Board

SORGHUM THE SMART CHOICE

Sorghum: Efficiency



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Sprinkler Sorghum Competition
Highest Input Efficiency Award

Top 3: Ron Robison
Don Bloss
Mike Baker

Winner: (Tie)
Mike Baker & Ron Robison

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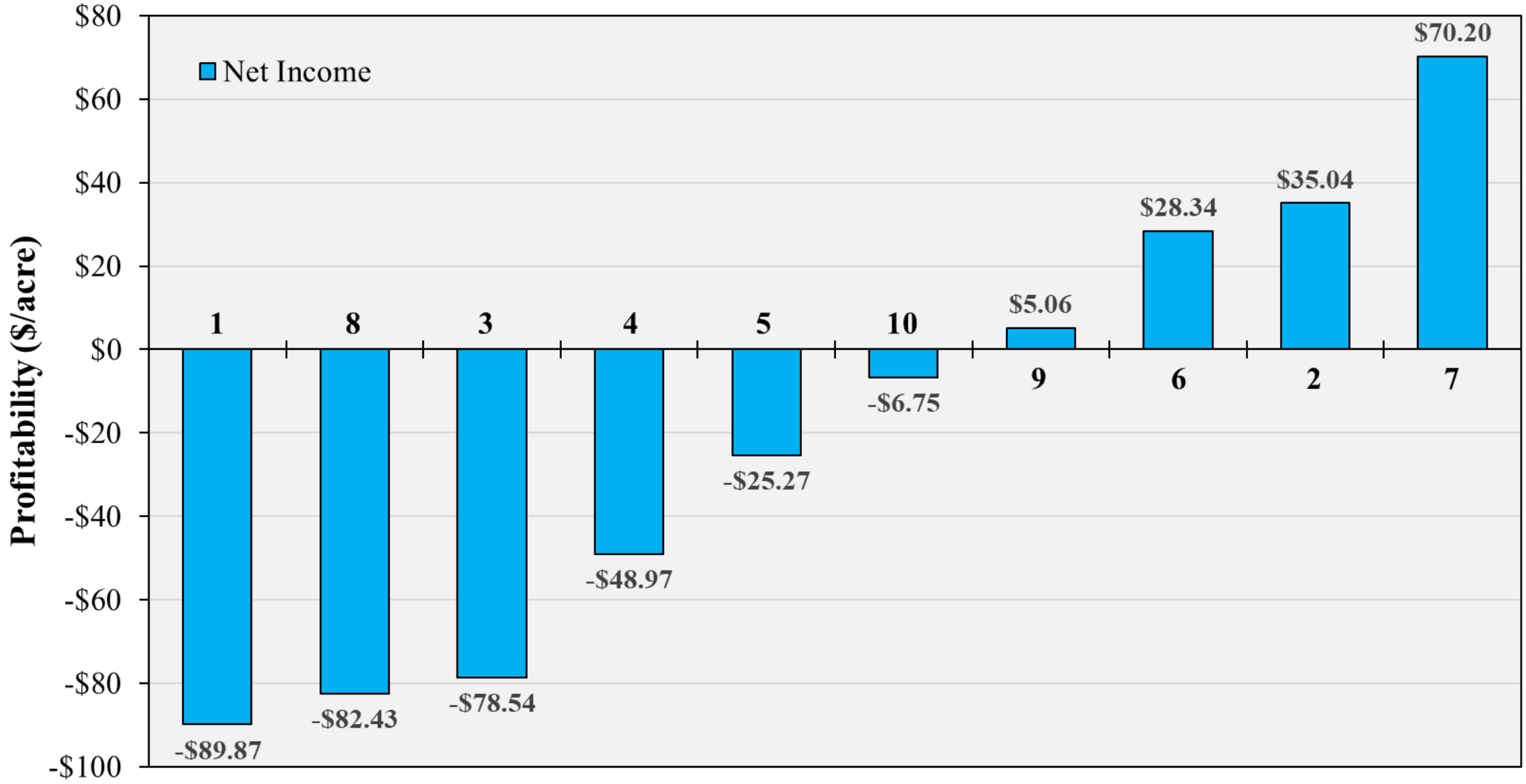
Nebraska Grain Sorghum Board

SORGHUM THE SMART CHOICE

Sorghum: Profitability



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Sprinkler Sorghum Competition
Most Profitable Award

Top 3: UNL Educators

Brian Ballou

Mike Baker

Winner: Mike Baker

University of Nebraska Lincoln

Nebraska Grain Sorghum Board

SORGHUM THE SMART CHOICE

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TESTING AG PERFORMANCE SOLUTIONS

Sprinkler Sorghum Competition Award Winners

Highest Grain Yield: Mike Baker

Highest Input Efficiency: Mike Baker & Ron Robison

Most Profitable: Mike Baker

University of Nebraska Lincoln

Nebraska Grain Sorghum Board

Sorghum The Smart Choice

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SDI Corn

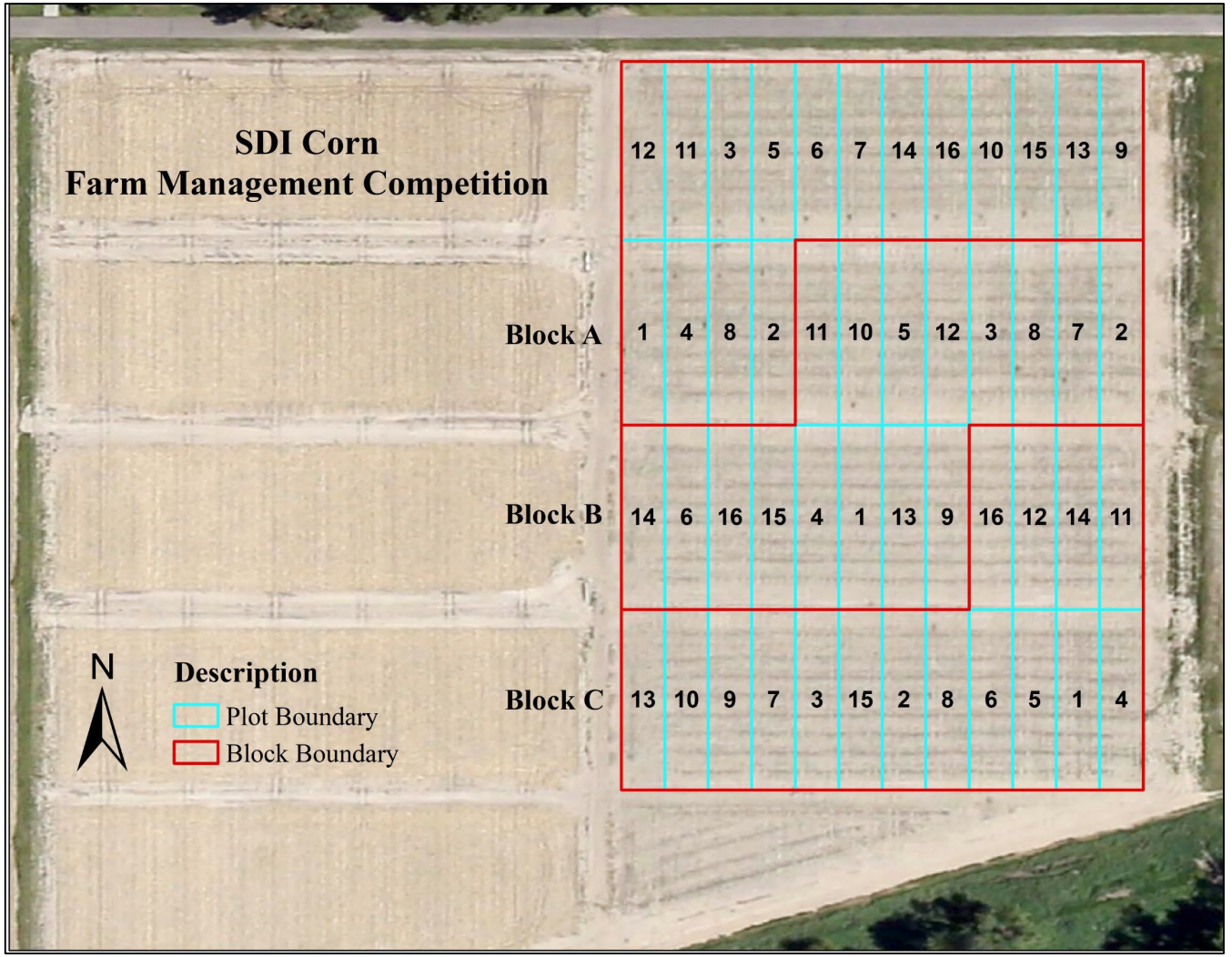
ECO-DRIP

Nebraska CornBoard

SDI Corn Field Description

16 Farms

- Kevin Harsch
- Amy Harsch
- Jay Johnson
- Jeremy Gewecke
- Phil Burkhalter
- Bryant Knoerzer
- Mark Reiman
- David Beck
- Jason Ladman
- Joshua Becker
- Ben Benson
- Jonathon Remple
- Curtis Scheele
- Rick Reinsch
- Reed Philips
- Patt Nott
- Cole Simmons
- UNL Educators
- Eco-Drip
- Craig Langemeier
- Ryan Langemeier
- Andy Langemeier
- Tyler Harris
- Brian Frank



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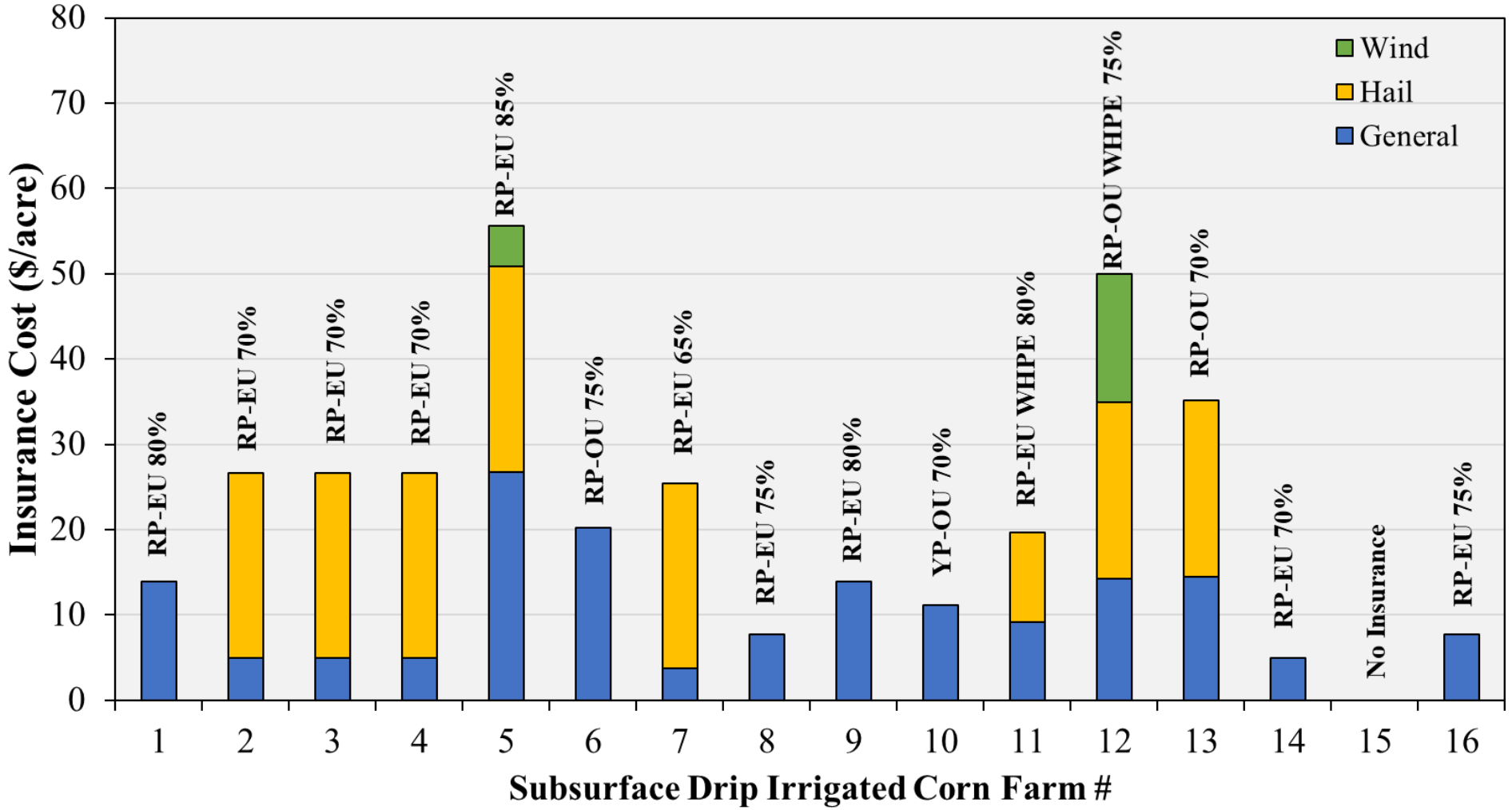
SDI Corn: Insurance



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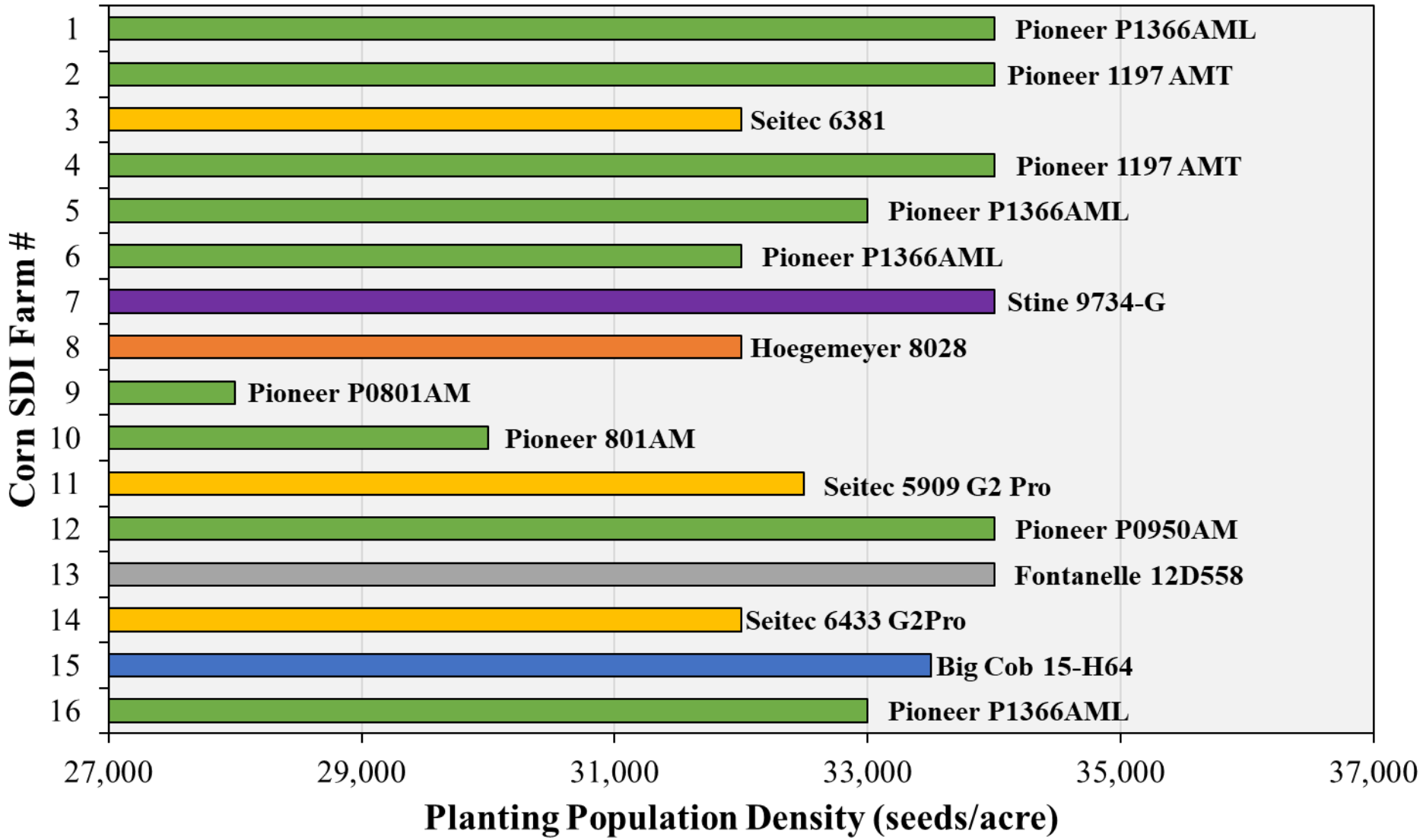
SDI Corn: Hybrid Selection & Seeding Rate



11 Hybrids

- Company shown by color

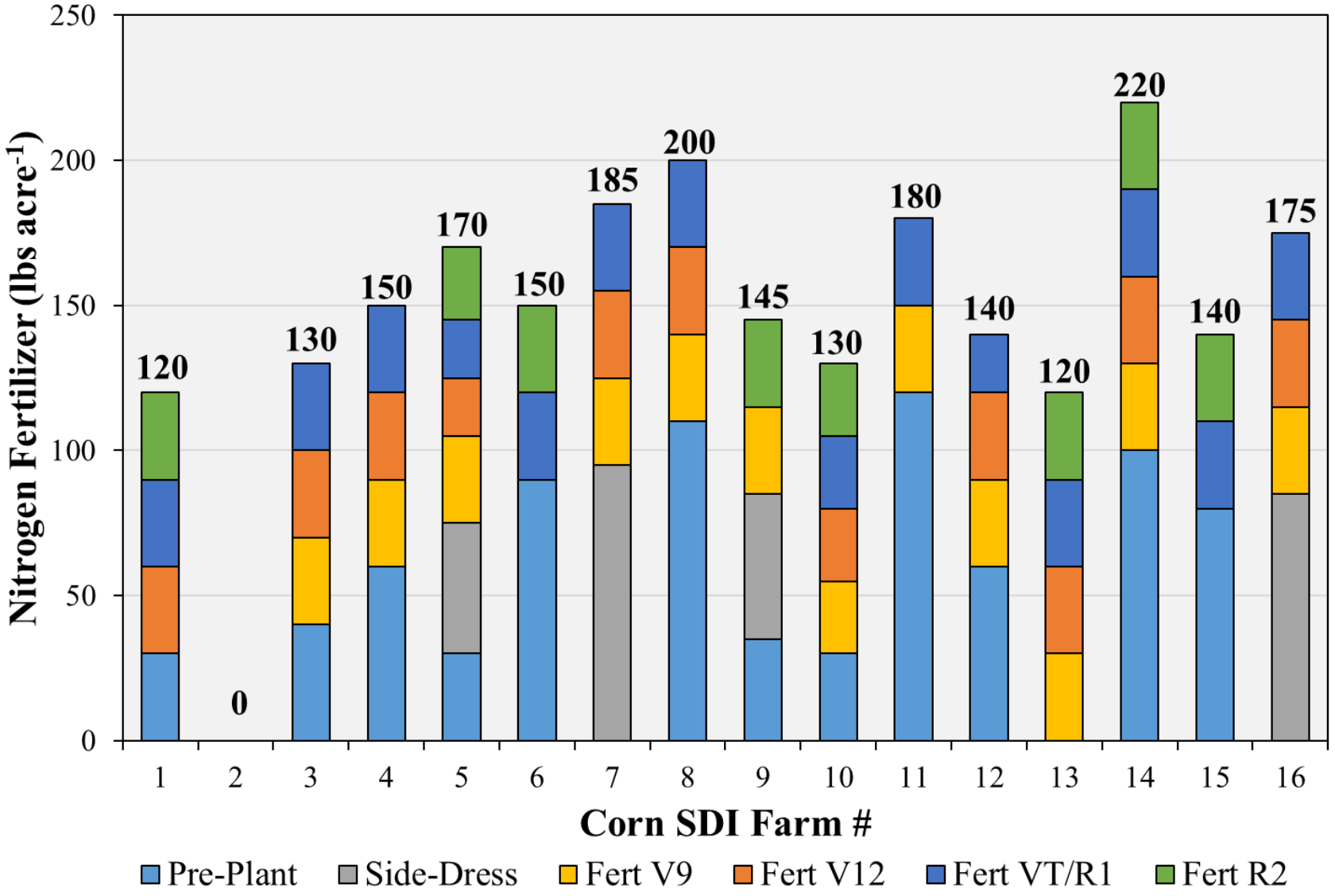
Population

- Min: 28,000
- Avg: 32,625
- Max: 34,000

Cost per Acre:

- Min: $77
- Avg: $95
- Max: $118

SDI Corn: Nitrogen Fertilizer



Pre-Nitrogen (lb/ac)

- Min: 0
- Median: 40
- Avg: 52
- Max: 120

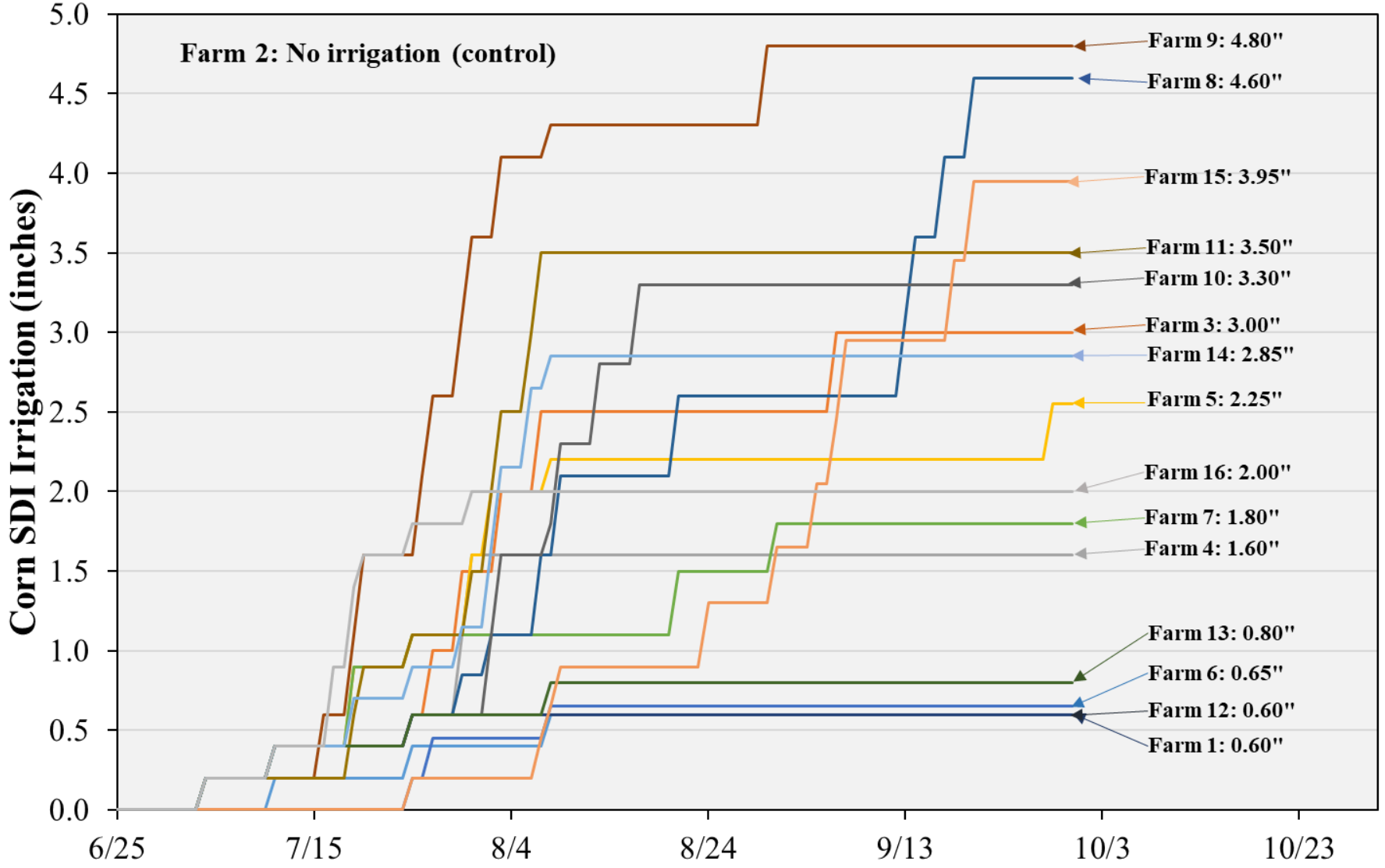
Side-Dress (lbs/ac)

- Min: 0
- Median: 0
- Avg: 18
- Max: 95

Fertigations (lbs/ac)

- Min: 60
- Median: 150
- Avg: 157
- Max: 120

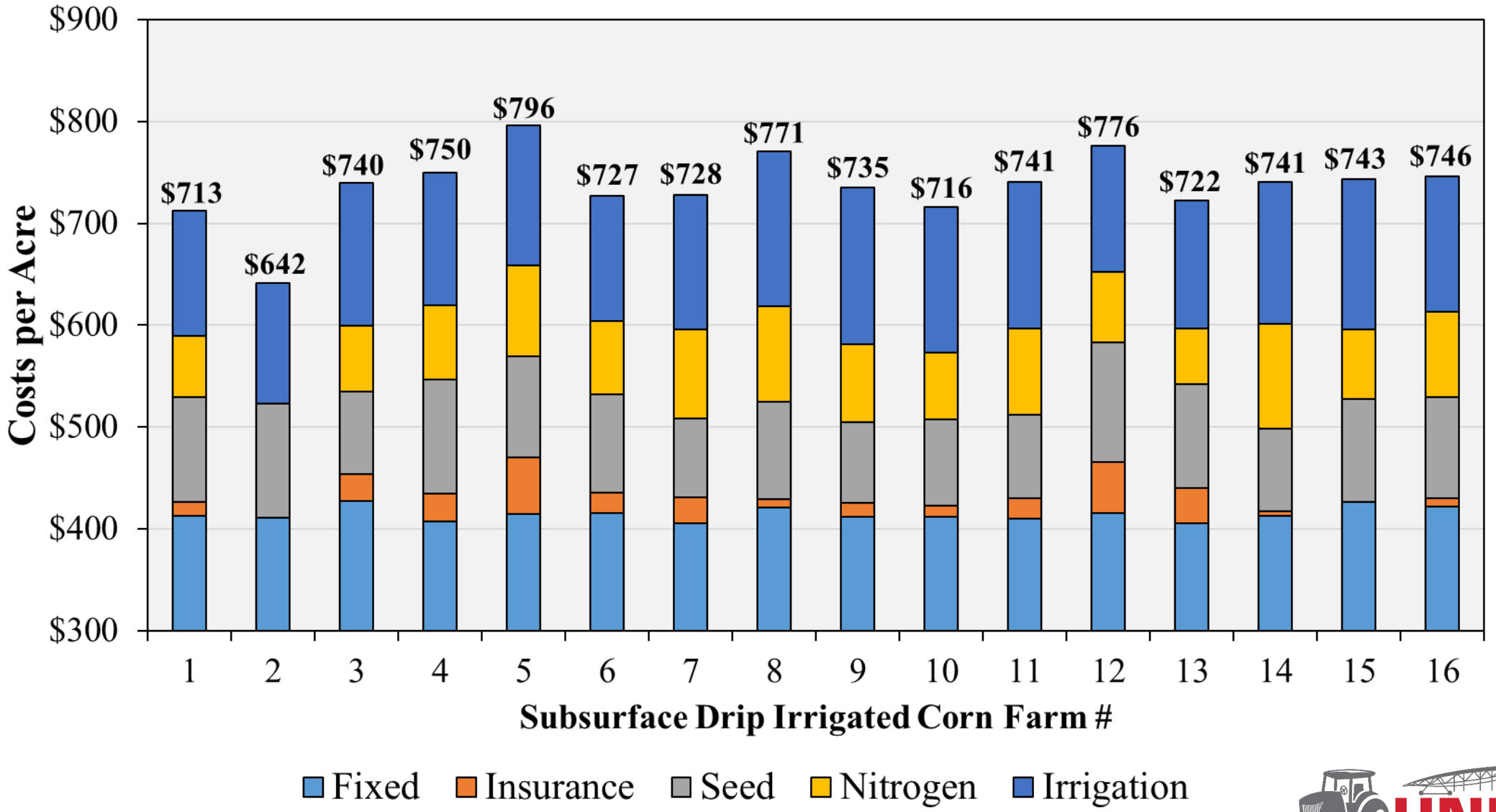
SDI Corn: Irrigation



Irrigation:

- Min: 0.60”
- Avg: 2.44”
- Median: 2.55”
- Max: 4.80”

SDI Corn: Cost



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SDI Corn Competition Results

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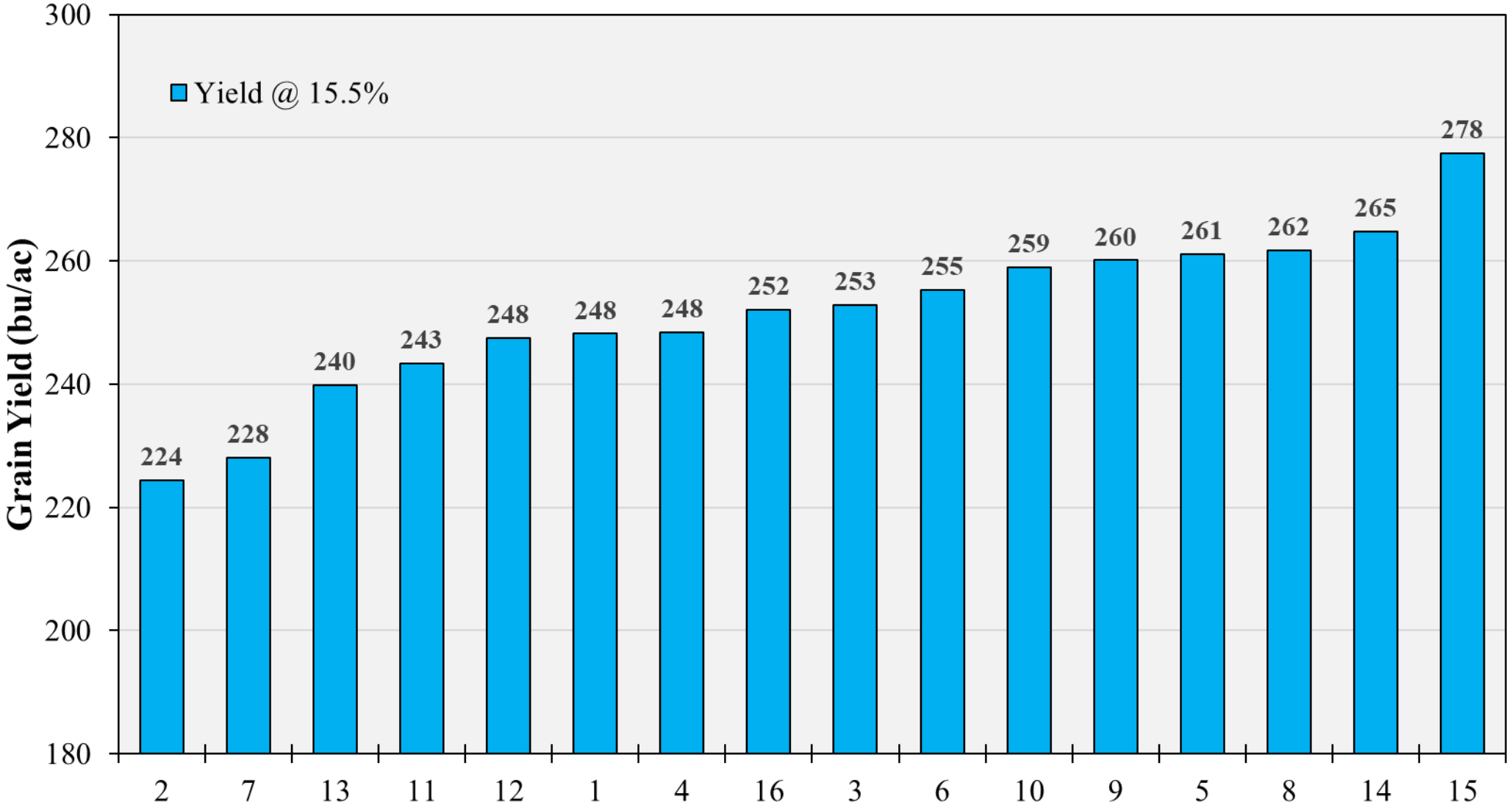
SDI Corn: Yield



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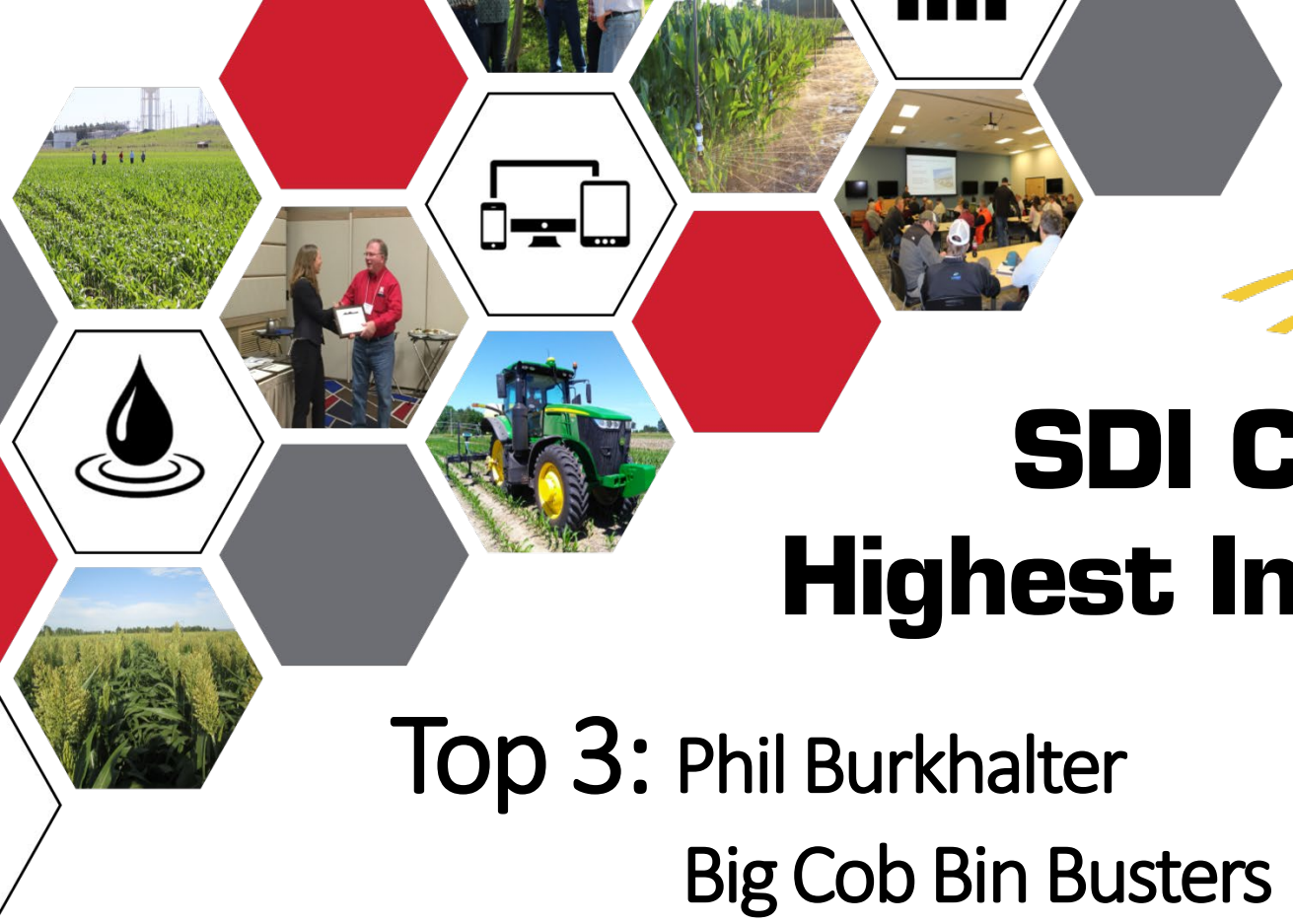

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SDI Corn Competition
Highest Input Efficiency Award

Top 3: Phil Burkhalter

Big Cob Bin Busters

Kevin & Amy Harsch, Jay Johnson, Jeremy Gewecke

Winner: Big Cob Bin Busters (Joshua Becker, Jason Ladman, Jonathan Remple & Ben Benson)

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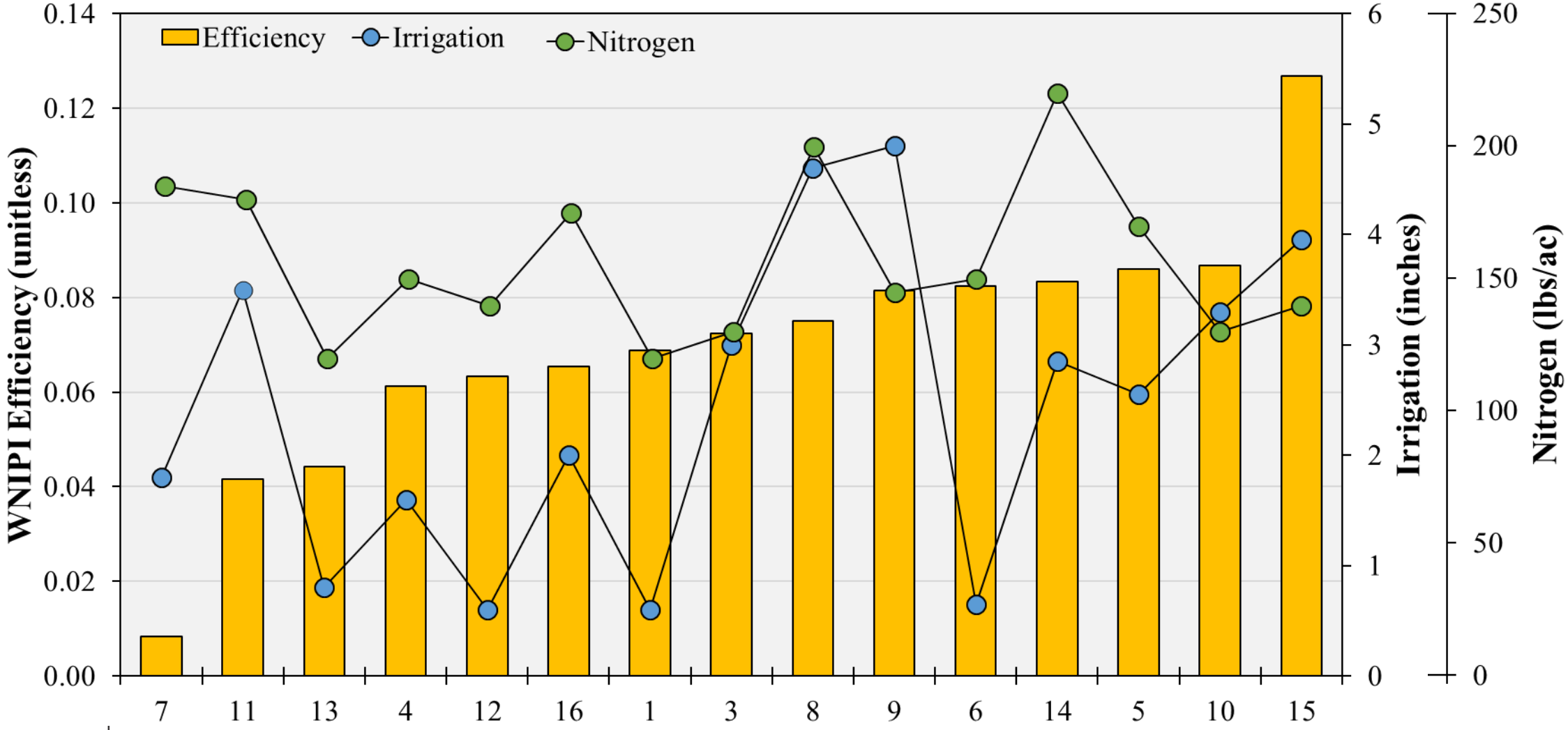
SDI Corn: Efficiency



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SDI Corn Competition
Highest Grain Yield Award

Top 3: Big Cob Bin Busters

David Beck

Kevin & Amy Harsch, Jay Johnson, Jeremy Gewecke

Winner: Big Cob Bin Busters (Joshua Becker, Jason Ladman, Jonathan Remple & Ben Benson)

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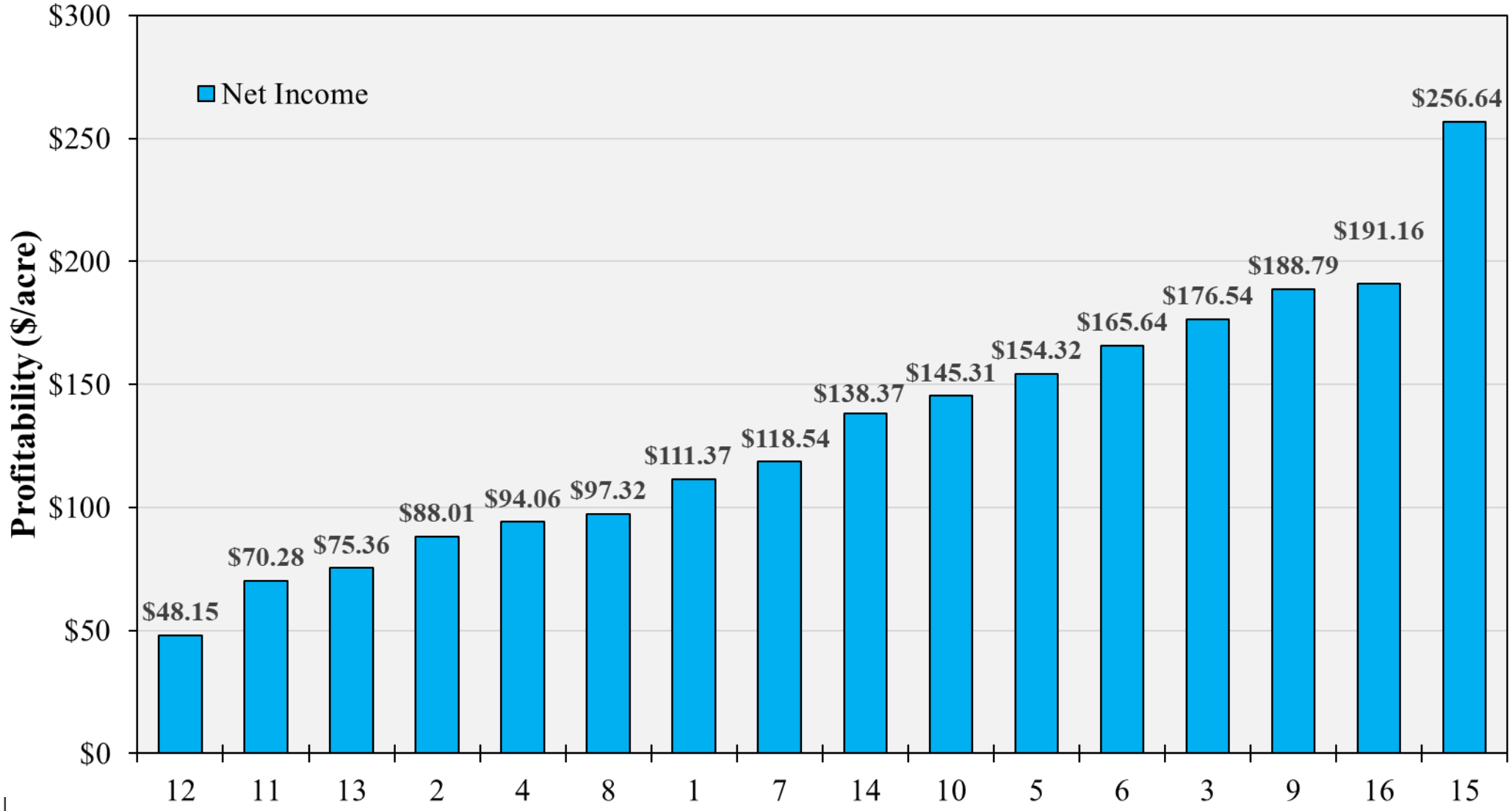
SDI Corn: Profitability



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SDI Corn Competition
Most Profitable Award

Top 3: Brian Frank

Big Cob Bin Busters

Tri Basin NRD Team

Winner: Big Cob Bin Busters (Joshua Becker, Jason Ladman, Jonathan Remple & Ben Benson)

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UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

SDI Corn Competition Award Winners

Highest Grain Yield: Big Cob Bin Busters

Highest Input Efficiency: Big Cob Bin Busters

Most Profitable: Big Cob Bin Busters

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TESTING AG PERFORMANCE SOLUTIONS

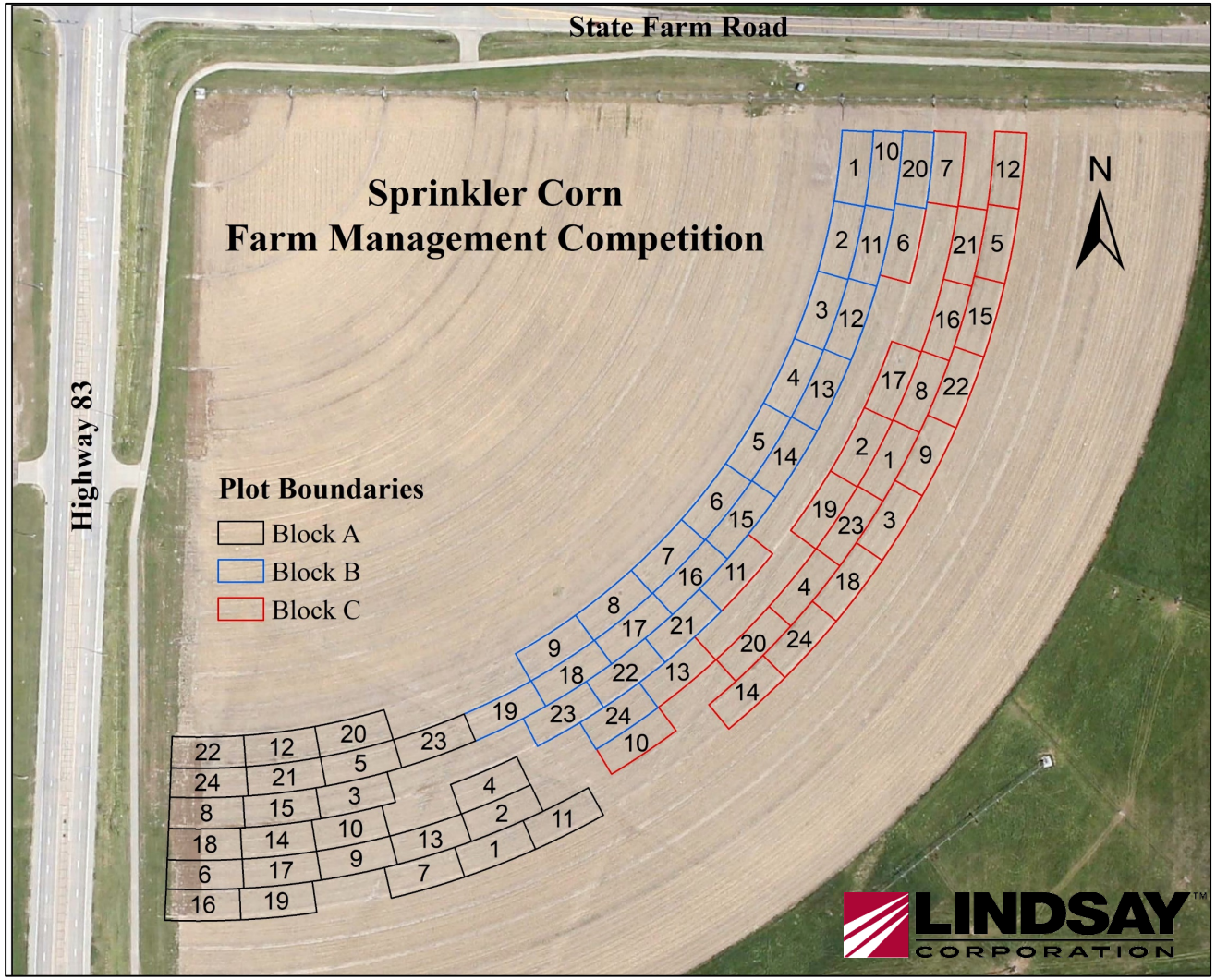
Sprinkler Corn

Nebraska CornBoard

Sprinkler Corn Field Description

24 Farms

- Tim Franklin
- Gerald Franklin
- Janet Bear
- Cory Gilbert
- Barrett Duell
- Jeanne Falk Jones
- Bruce Young
- Jim Kemling
- Ron Hagan
- Shawn Turner
- Troy Kemling
- Rick Salsman
- Curt Richmond
- Bill Richmond
- Brent Gloy
- Ted Tietjen
- Matt Long
- Bob Wiseman
- Travis Edeal
- Jay Elfeldt
- Chris Anderson
- NJC - Andy Barlett
- Joel Schneekloth
- UNL Educators
- Craig Langemeier
- Ryan Langemeier
- Andy Langemeier
- Jordan Bergquist
- Joe Haas
- Eric Gustafson
- Marlin Murdoch
- Marcus Thomsen
- Jordan Brown
- Ian De Waal
- Chase Dugan
- Colin Wetovic
- Bill Struckmeyer
- Ben Bamhart
- Chris Meyer
- Colby Brauer
- Tyson Narjes
- Tim Schmeeckle
- NCTA- Brad Ramsdale
- Jason Pohlmann
- Kyle Spilker
- Brandon Beethe
- Ryan McDaniel
- Jeremy Siems
- Kyle Wollenburg
- Scott Theis
- Paul Hay
- Tim Graff
- Rodney Wiese
- Ron Mackovica
- Jerry Stahr
- Jenny Rees
- Stuart Spadar
- Randy Prior
- Tyler Weishahn
- Wes Cammack
- Brian Stahr
- Jason Perdue
- Brad Mackovica
- Mike Thompson
- Philip Paitz
- Beth Eckles
- Margeaux Carter
- Kris Reed
- Kent Zimmerman
- Dane Pauley
- Jeremy Gehle
- Kim Menke



University of Nebraska Lincoln

Nebraska CornBoard

UNL TAPS
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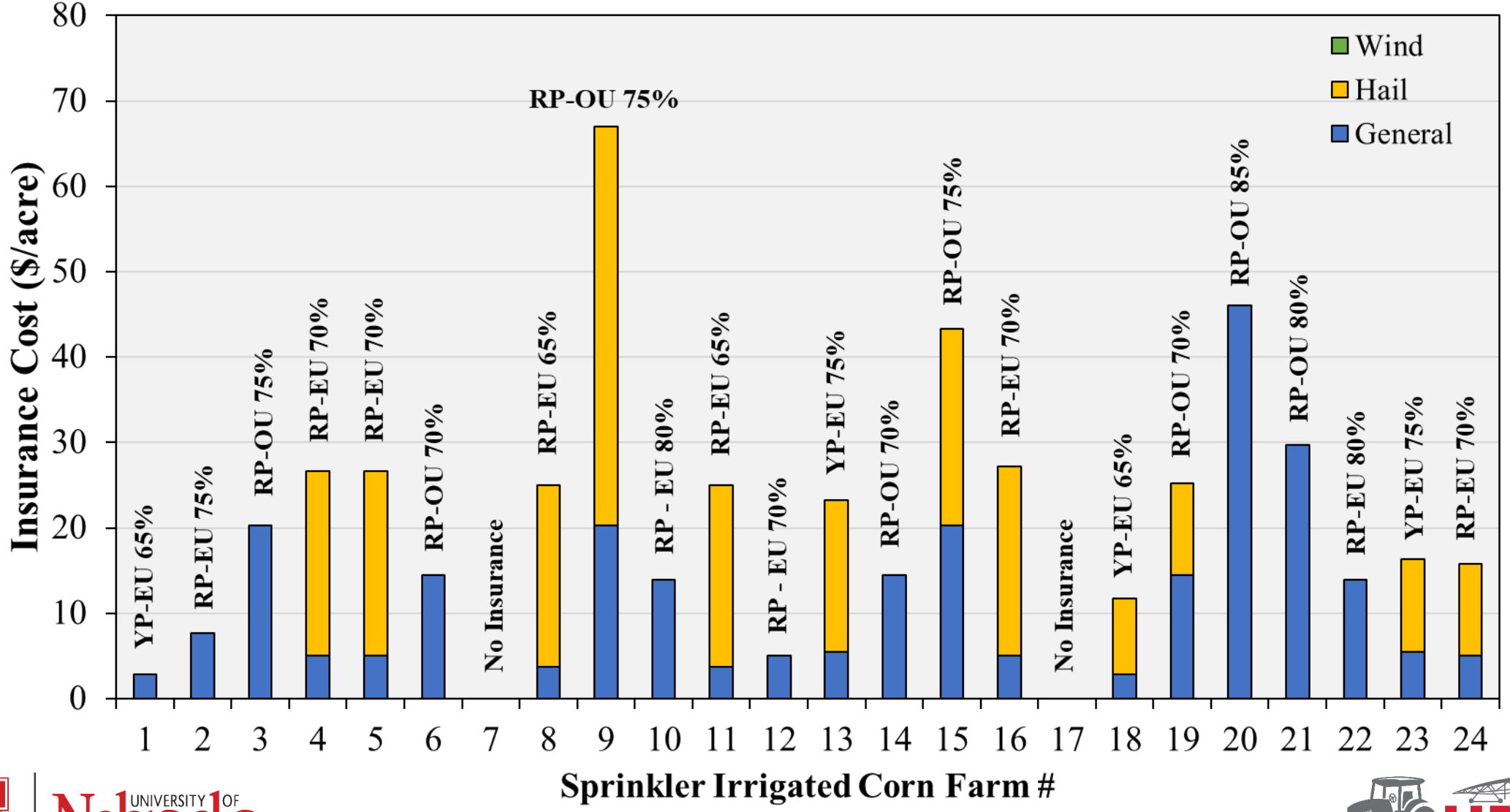
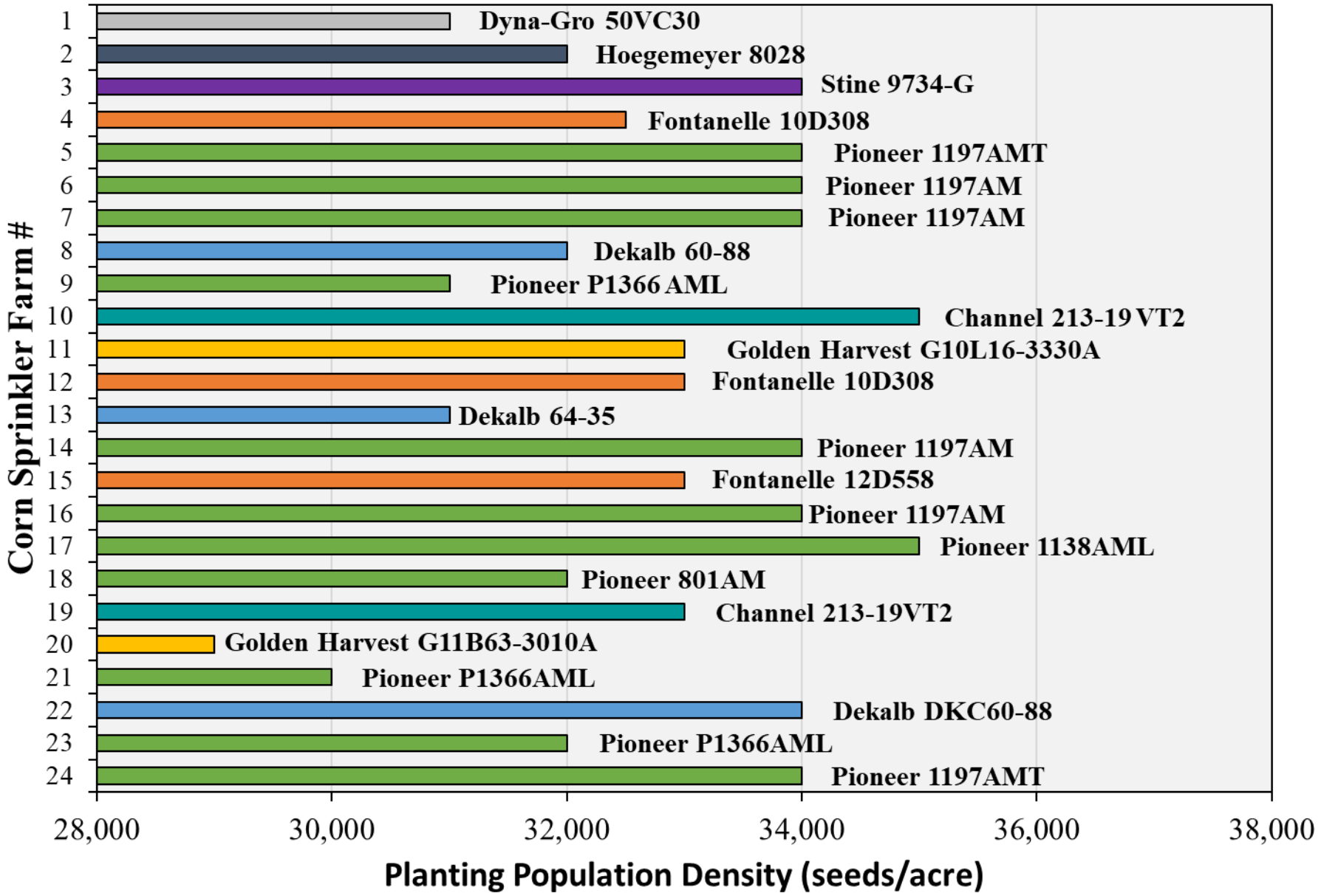
Sprinkler Corn: Insurance



Sprinkler Corn: Hybrid Selection & Seeding Rate



15 Hybrids

- Company shown by color

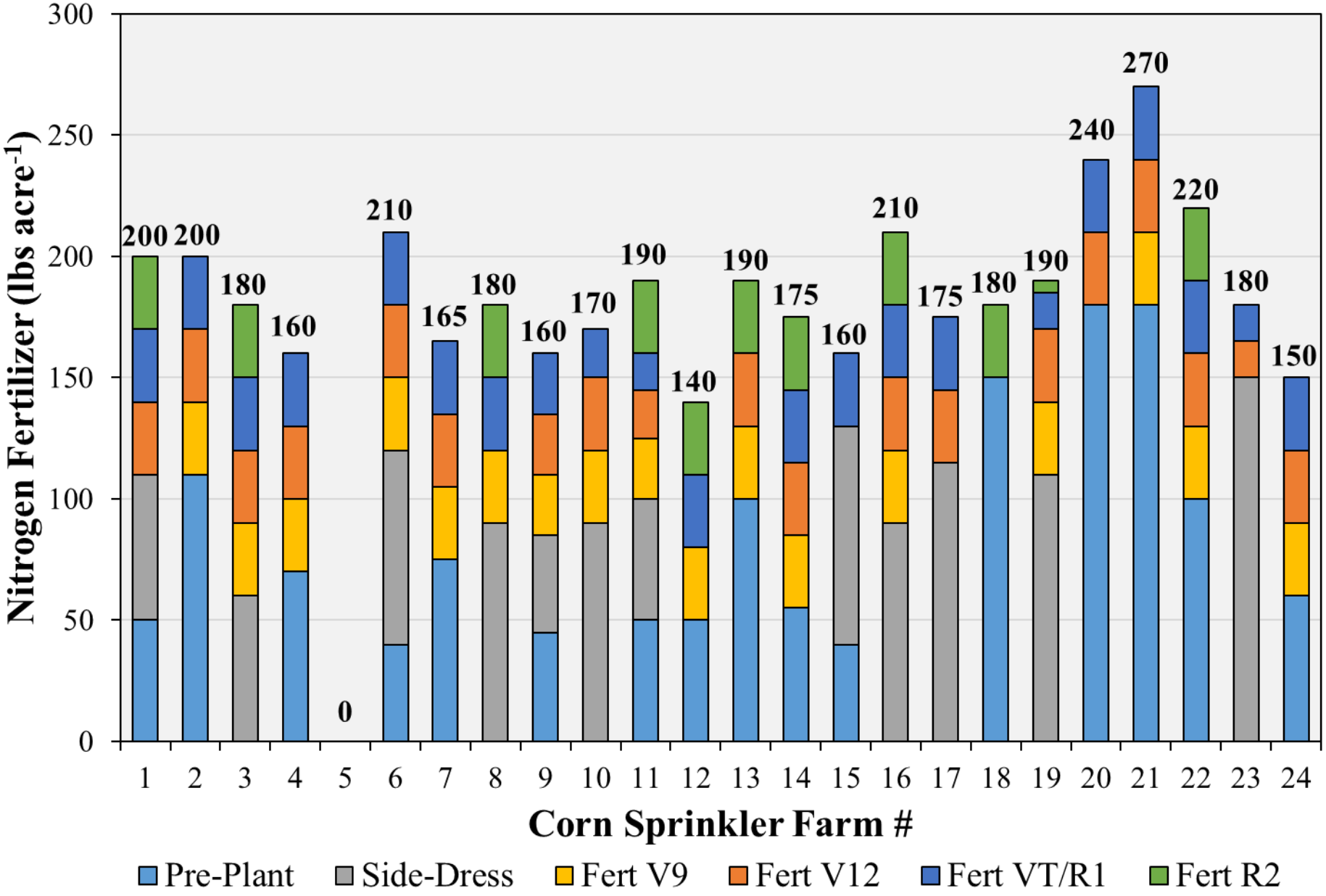
Population:

- Min: 29,000
- Avg: 32,771
- Max: 35,000

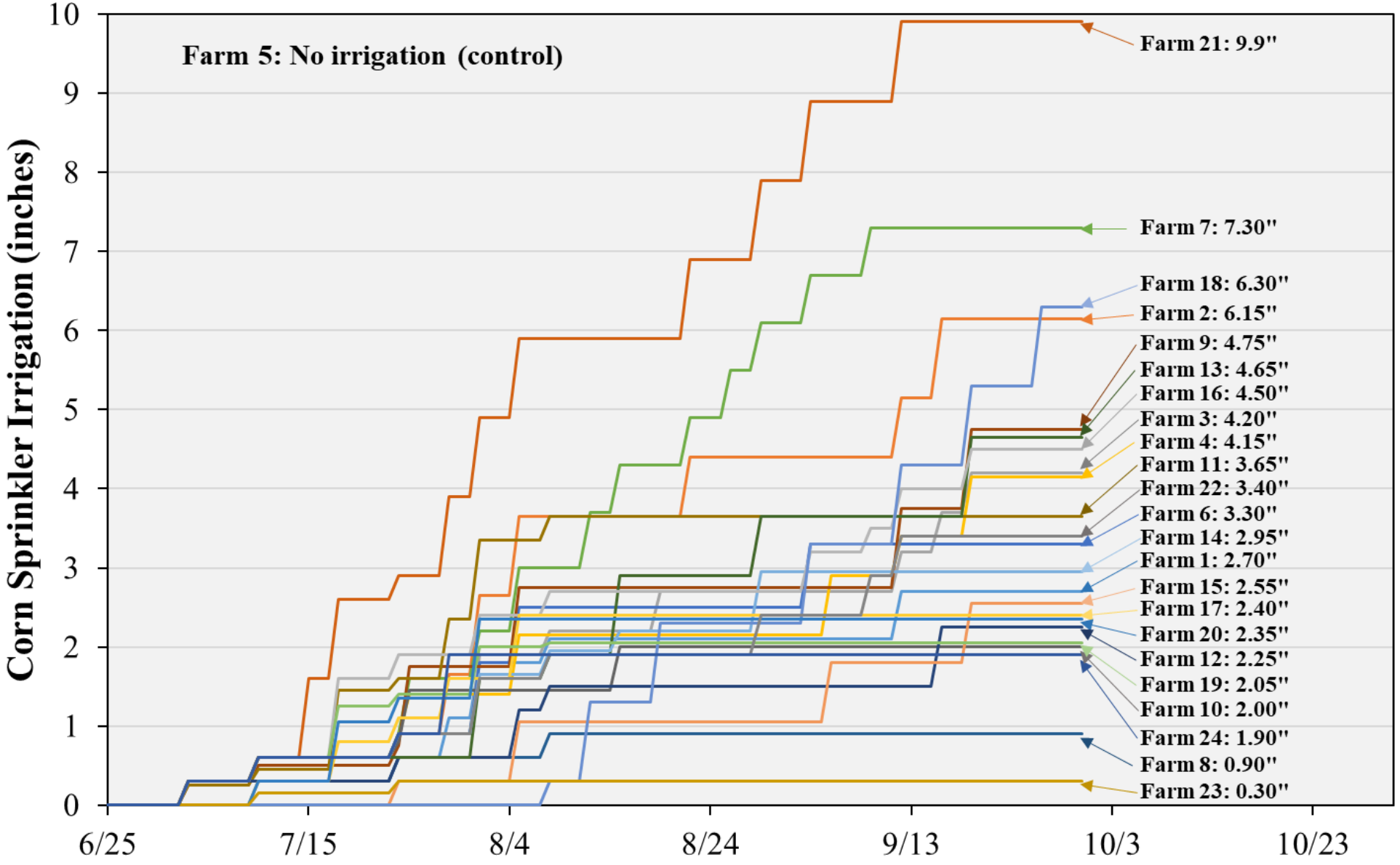
Cost per Acre:

- Min: $77
- Avg: $100
- Max: $118

Sprinkler Corn: Nitrogen Fertilizer



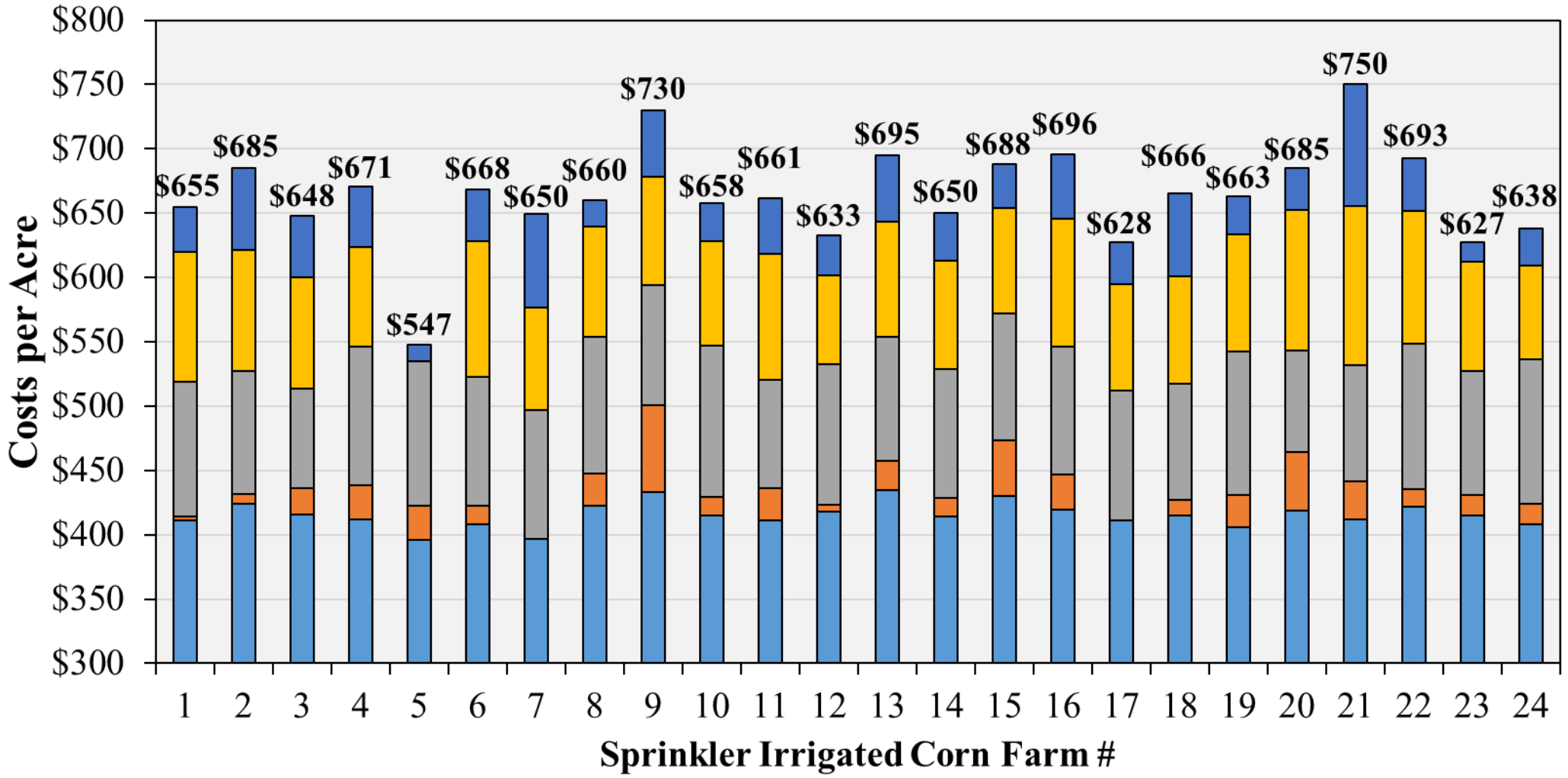
Sprinkler Corn: Irrigation



Irrigation:

- Min: 0.30”
- Median: 3.30”
- Avg: 3.68”
- Max: 9.90”

Sprinkler Corn: Cost



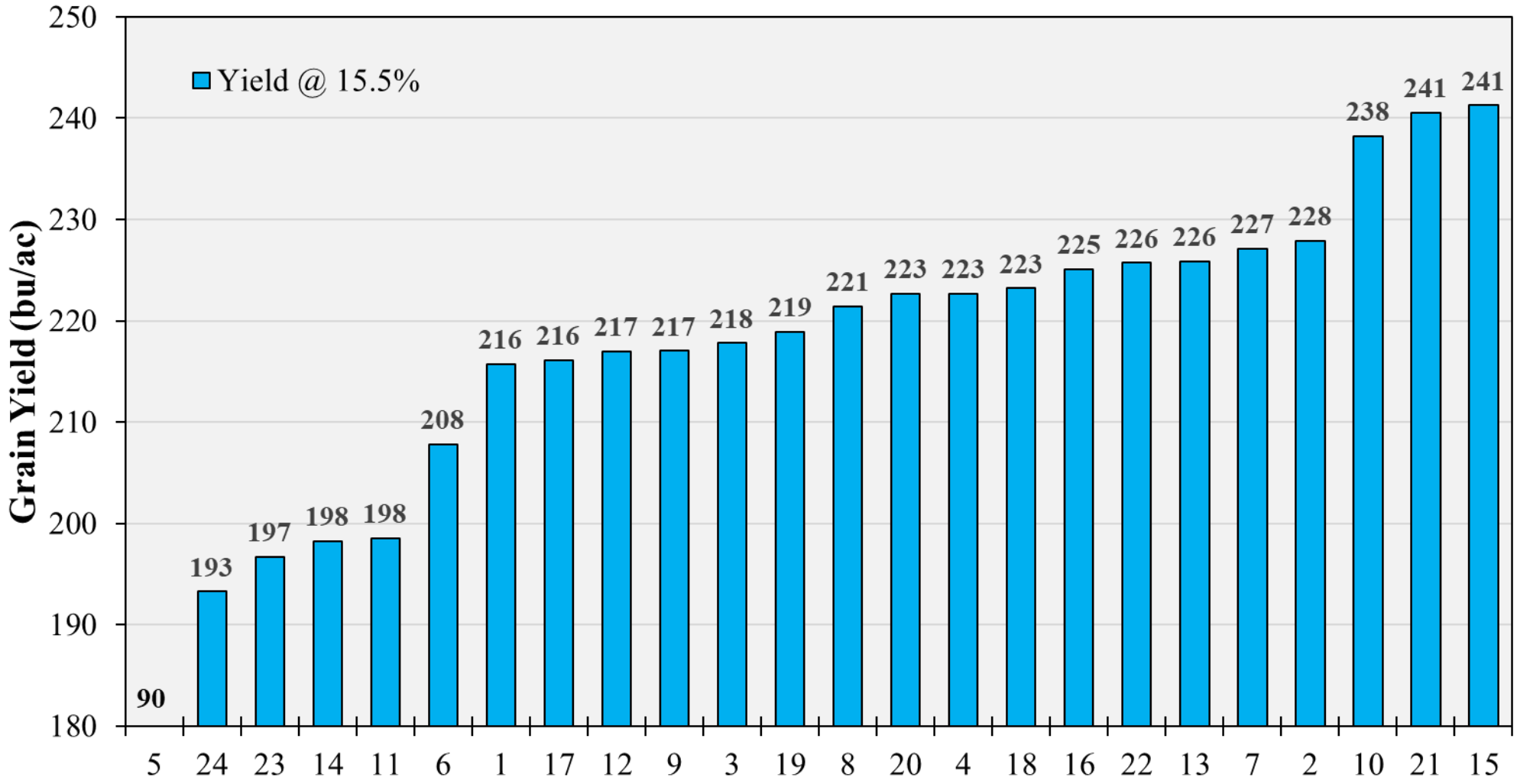
UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

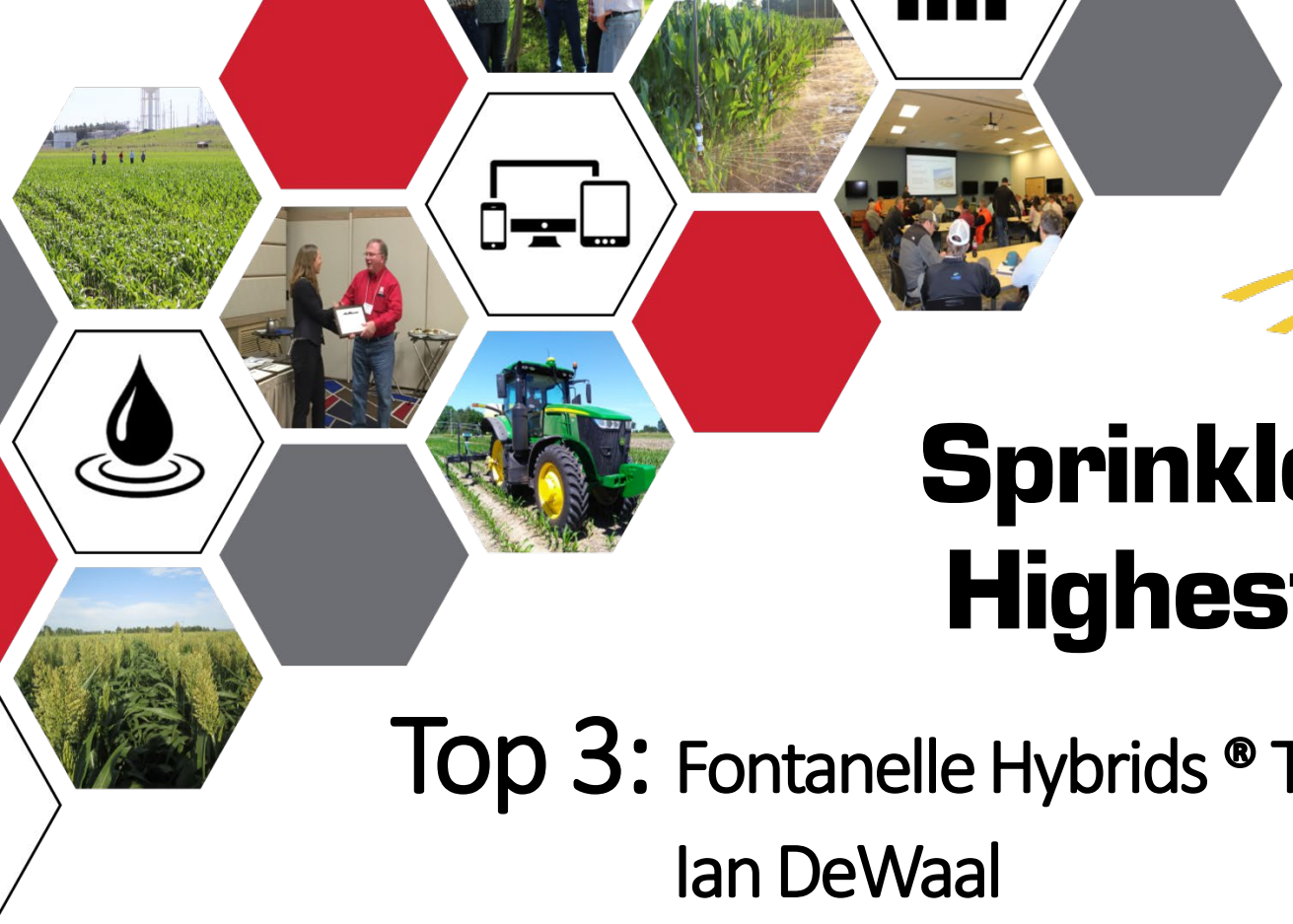
Sprinkler Corn Competition Results

University of Nebraska Lincoln

Nebraska Corn Board

Sprinkler Corn: Yield





UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

Sprinkler Corn Competition
Highest Grain Yield Award

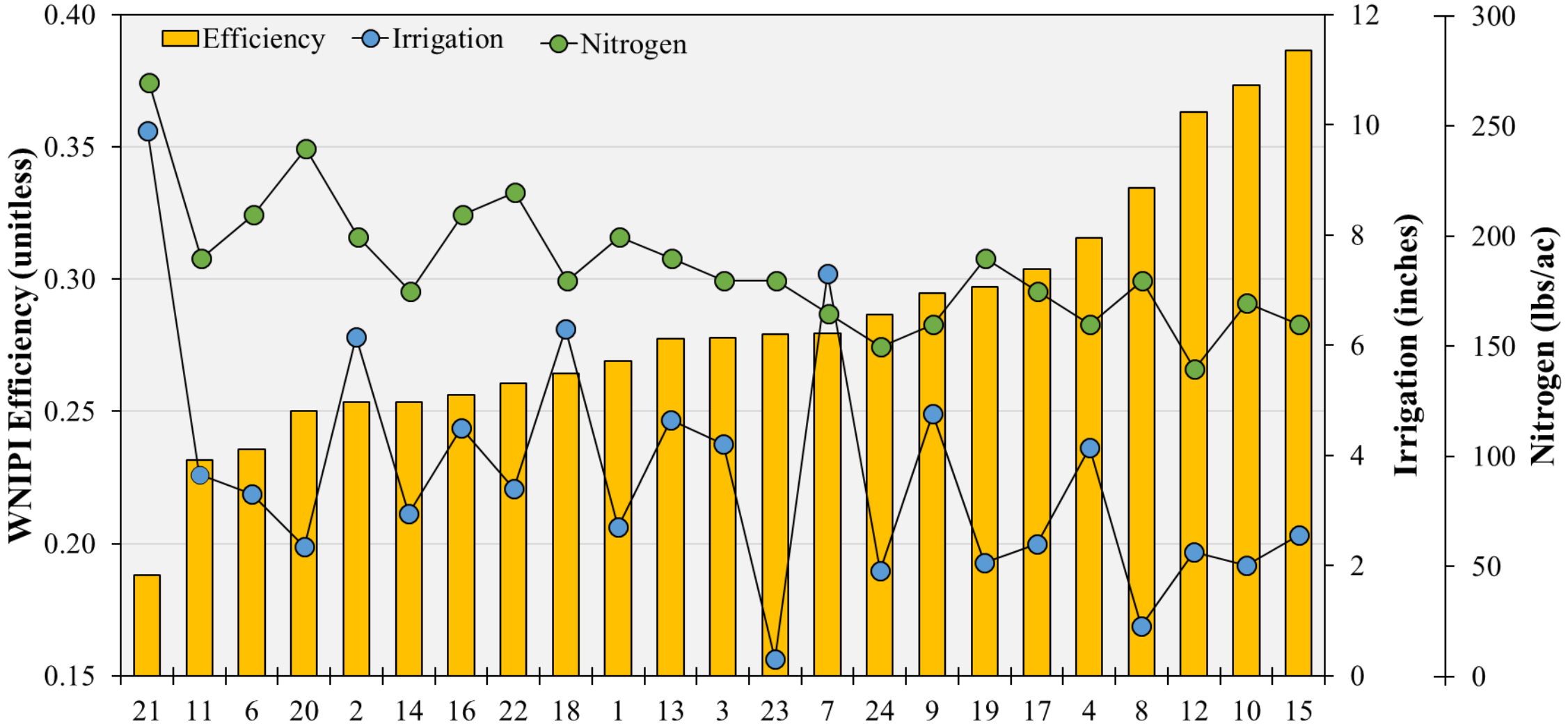
Top 3: Fontanelle Hybrids ® Team
Ian DeWaal
Jordan Bergquist, Joe Haas, Eric Gustafson, Marlin Murdoch

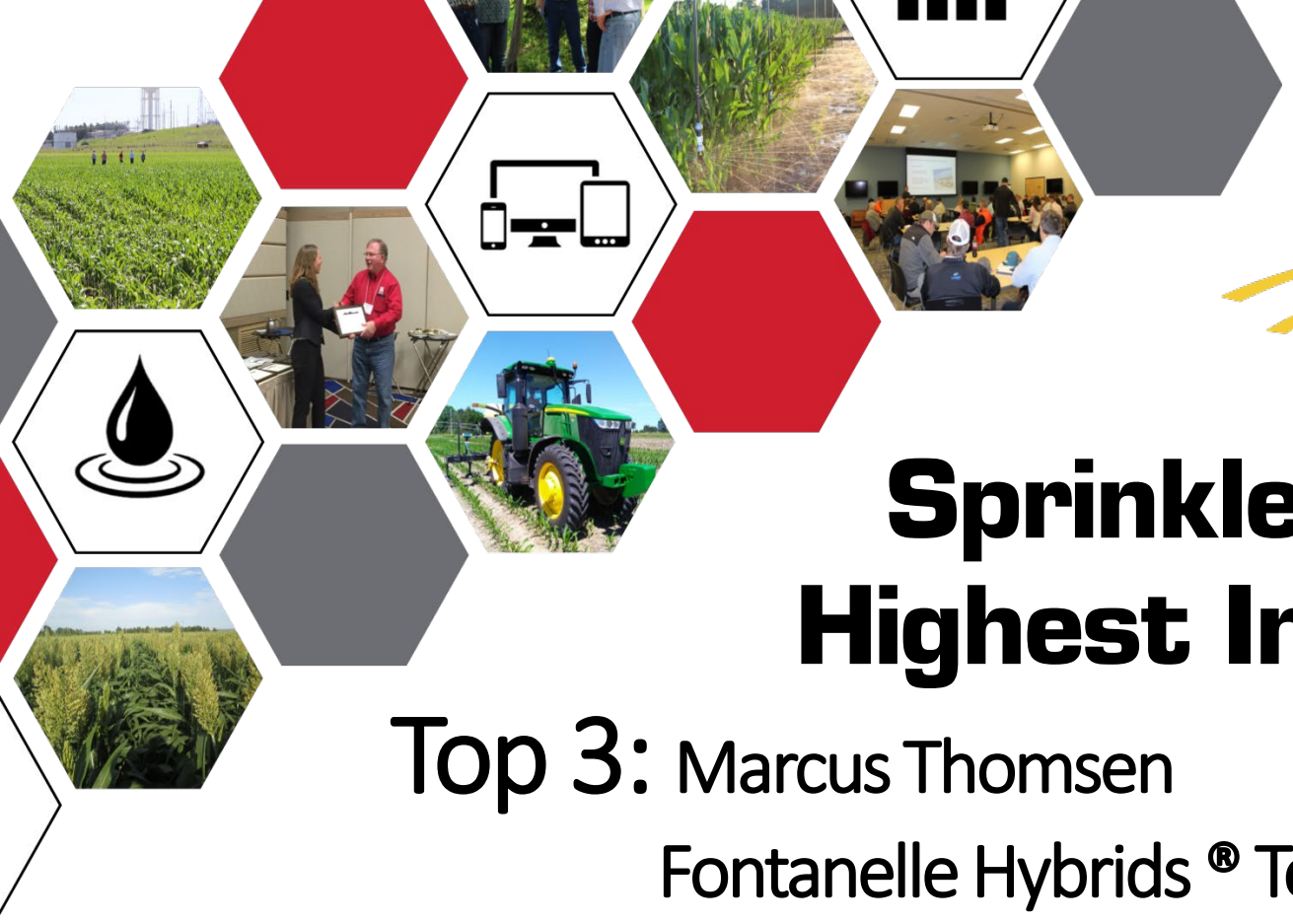
Winner: Fontanelle Hybrids ® Team (Bob Wiseman, Travis Edeal, Chris Anderson, Jay Elfeldt)

University of Nebraska Lincoln

Nebraska Corn Board

Sprinkler Corn: Efficiency





UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

Sprinkler Corn Competition
Highest Input Efficiency Award

Top 3: Marcus Thomsen

Fontanelle Hybrids ® Team

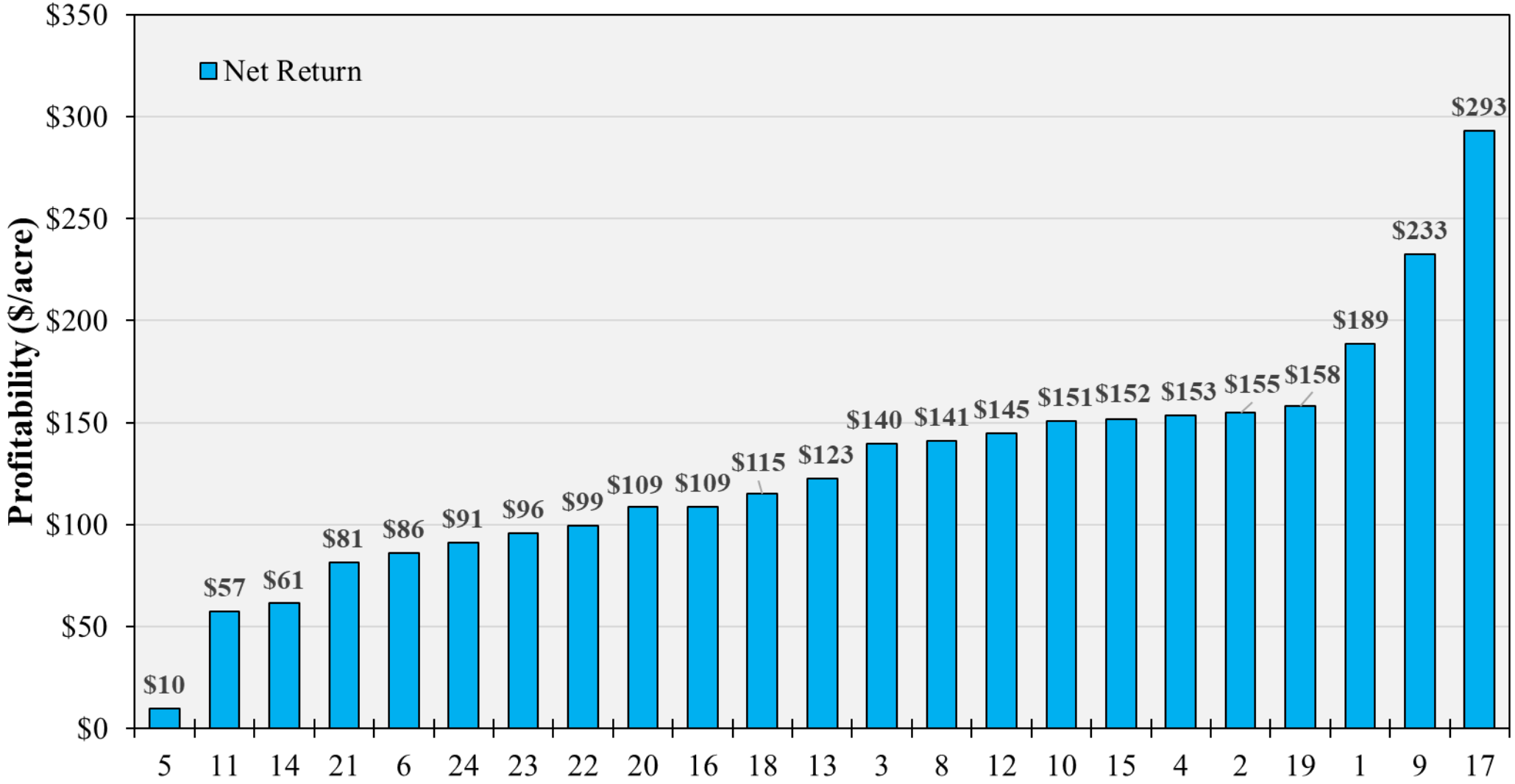
Jordan Bergquist, Joe Haas, Eric Gustafson, Marlin Murdoch

Winner: Fontanelle Hybrids ® Team (Bob Wiseman, Travis Edeal, Chris Anderson, Jay Elfeldt)

University of Nebraska Lincoln

Nebraska Corn Board

Sprinkler Corn: Profitability



UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

Sprinkler Corn Competition
Most Profitable Award

Top 3: Colin Wetovic & Chase Dugan
Perkins Group
Kansas' Franklin Team

Winner: Perkins Group

(Bruce Young, Jim Kemling, Ron Hagan, Shawn Turner, Troy Kemling, Rick Salsman, Curt Richmond, Bill Richmond, Brent Gloy, & Ted Tietjen)

University of Nebraska Lincoln

Nebraska Corn Board

UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

Sprinkler Corn Competition Award Winners

Highest Grain Yield: Fontanelle Hybrids ® Team

Highest Input Efficiency: Fontanelle Hybrids ® Team

Most Profitable: Perkins Group

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TESTING AG PERFORMANCE SOLUTIONS

Sprinkler Corn Calcutta Winner

$415

Mike Jacobson

University of Nebraska Lincoln

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Grand Prize Drawings

Yeti Cooler & CropMetrics™ YIELD OPTIMIZATION TECHNOLOGY 1 year Subscription

Winner: Mike Baker

AquaSpy® 1 year Subscription

Winner: Todd Downer

Door Prizes

TerrAvion · THE CLIMATE CORPORATION · FarmersEdge™ · WARD Laboratories, Inc. · bomgaars

University of Nebraska Lincoln

Thank you to all those that donated items!

UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

2020 Contestants & Sponsors

If you have interest or know someone that might want to participate in 2020, please visit with us and have us add you to our growing list. Of course, spots are limited due to the field sizes so make sure to let the TAPS team know soon if you want to participate in 2020.

If your business or organization would like to be part of the TAPS program, we would be glad to visit with you about sponsorship opportunities that might align with your company's vision.

Please contact Krystle Rhoades, TAPS Program Manager,
at krystle.rhoades@unl.edu.

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