

2022 CVI-Mike Cook Field Event

Friday, 30 September 2022

9:00 am – 11:00 am

Adjacent to 920 South View Drive
Also known as 920 S View Drive in mapping software
Waterloo, IA

The logo for Cedar Valley Innovation (CVI) features the letters 'CVI' in a bold, green, sans-serif font. Below the letters are three horizontal lines in green, yellow, and green.

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



Version:
10 Dec 2022

Advanced* Corn Growing Concepts Field Meeting

Friday, 30 September 2022

9:00 am – 11:00 am

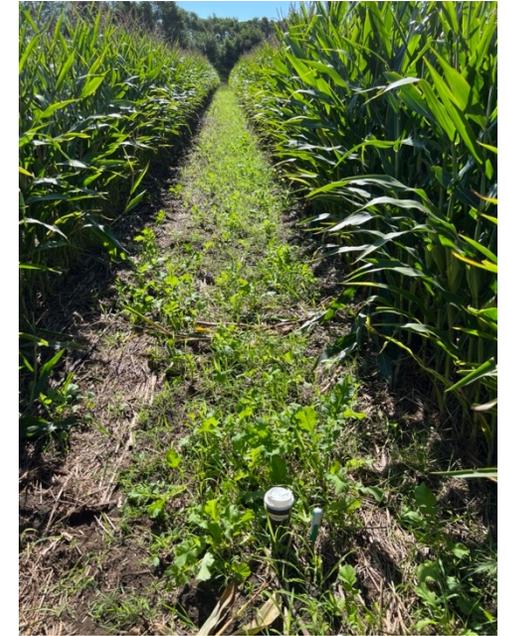
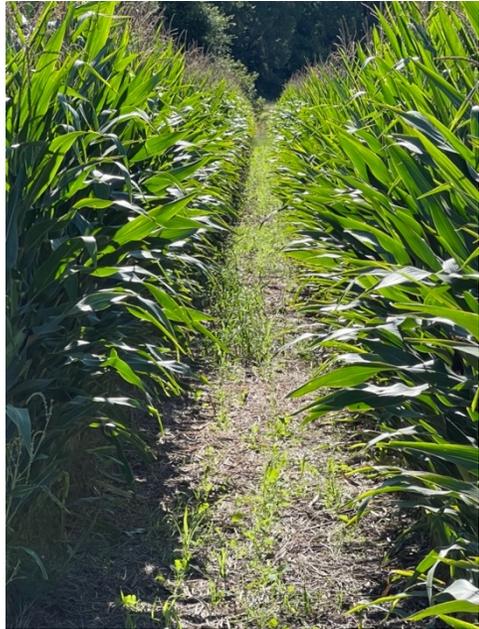
Mike Cook Plot Field

Adjacent to 920 South View Drive, Waterloo, IA

PLEASE REGISTER at

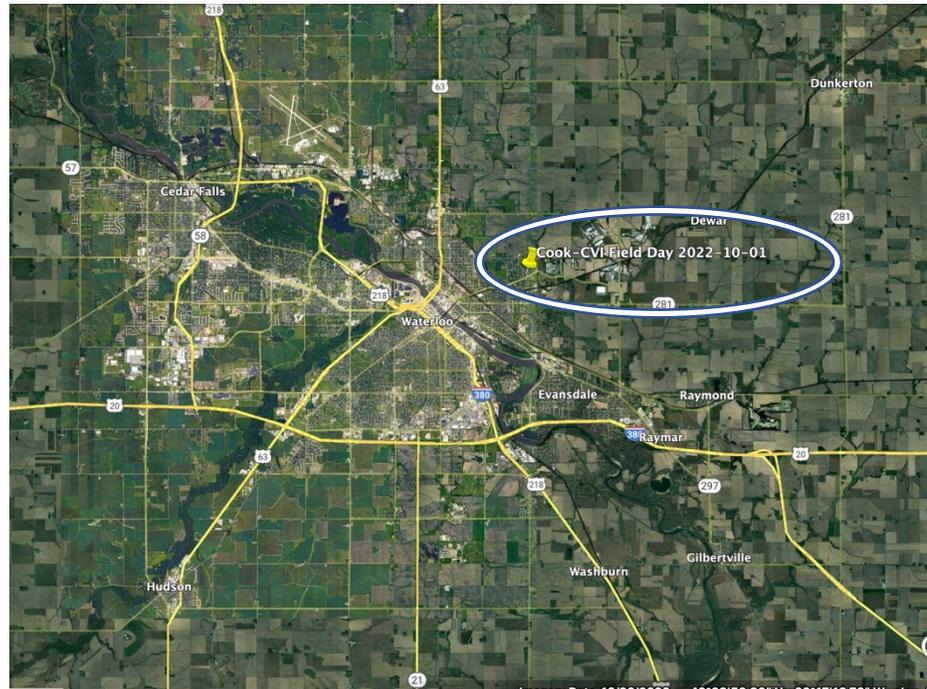
<https://www.eventbrite.com/e/advanced-corn-growing-field-event-friday-30-september-2022-9-11-am-tickets-423462867837>

or e-mail Bob Recker at
cedarvalleyinnovation@gmail.com



* “Advanced” may mean:

- Radical
- Crazy
- This will never work
- Not on my farm
- Not in my lifetime
- Or just maybe...



CVI

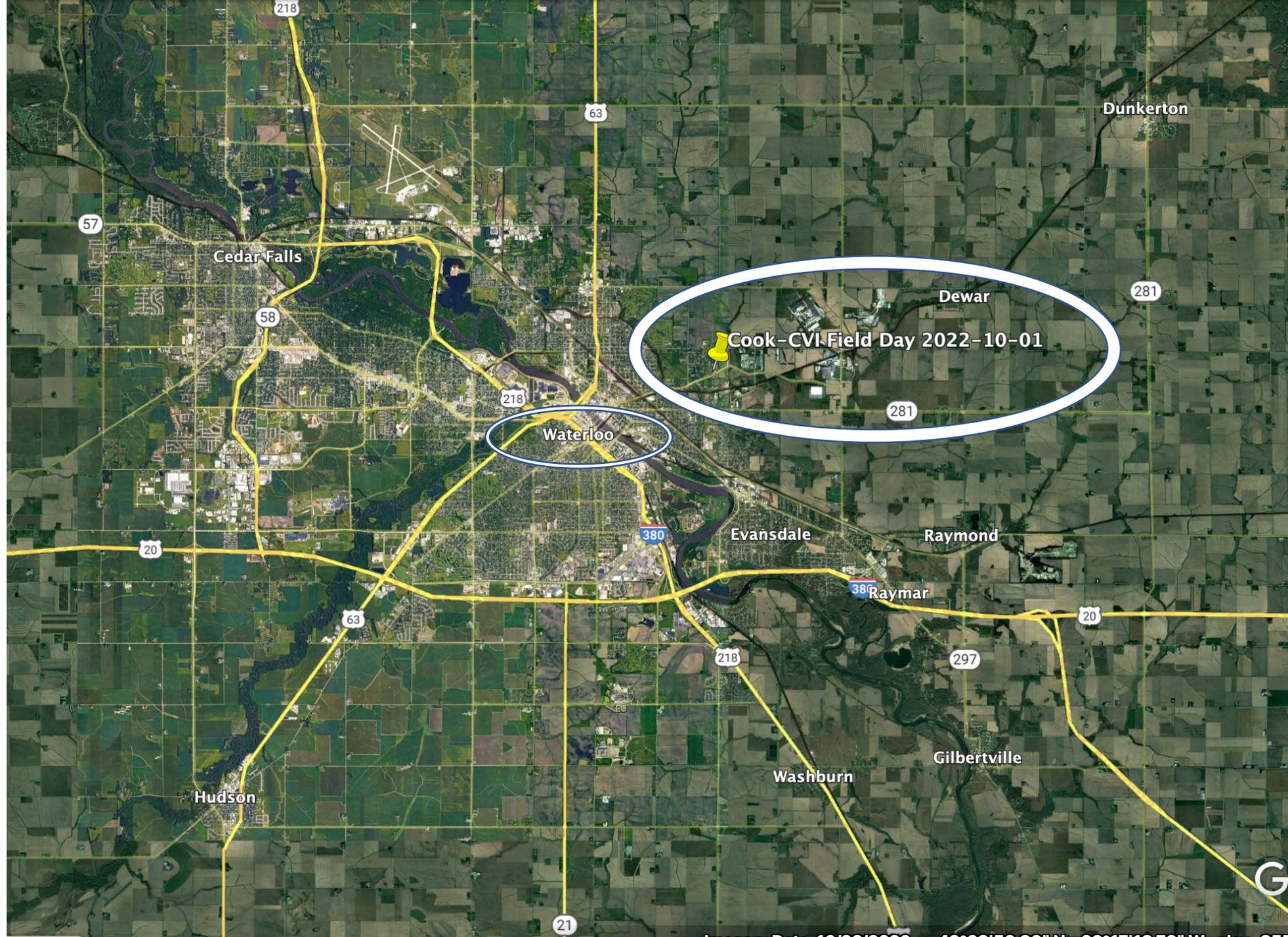
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2022
Field Day
Location
near
Waterloo, IA



2022
Field Day
Location

Adjacent to
920 South
View Dr
Waterloo, IA



A Tale of Two Factories

- In a factory 1.5 miles from here...
 - They make tractors
 - They make money
- In another factory 7 miles from here...
 - They make Nothing Physical, maybe a half dozen tractors per year
 - They spend lots of money: 4% of the tractor factory sales, but no direct profit
 - 10% of the 4% goes into “Advanced” concepts [0.4% of \$ or 4 acres per 1000]
- Which “factory” is your farming operation (or business job) -or both?
 - Grow profitable crops efficiently with known, consistent processesOr...
 - Exploring/investigating alternate methods for various reasons
 - Find/develop creative ways to meet regulations, limitations, and changing conditions
 - Explore and respond to new market opportunities

Meeting Content Info/Demo Flow

- 4 Major Replications
 - One set of 4 baseline rows in each replication
- Alternate row spacing
 - 30" Baseline rows
 - 60" Rows
 - 90" Twin Rows

Meeting Plan

- Short “Lessons Learned” from 2021: Rainfall shortage = Corn Crop Failure
- Highly Variable Soil in a small space
- EQIP experiments: Cover Crop
- Wide Row Experiments
- Opportunity Space
- Yield Checks

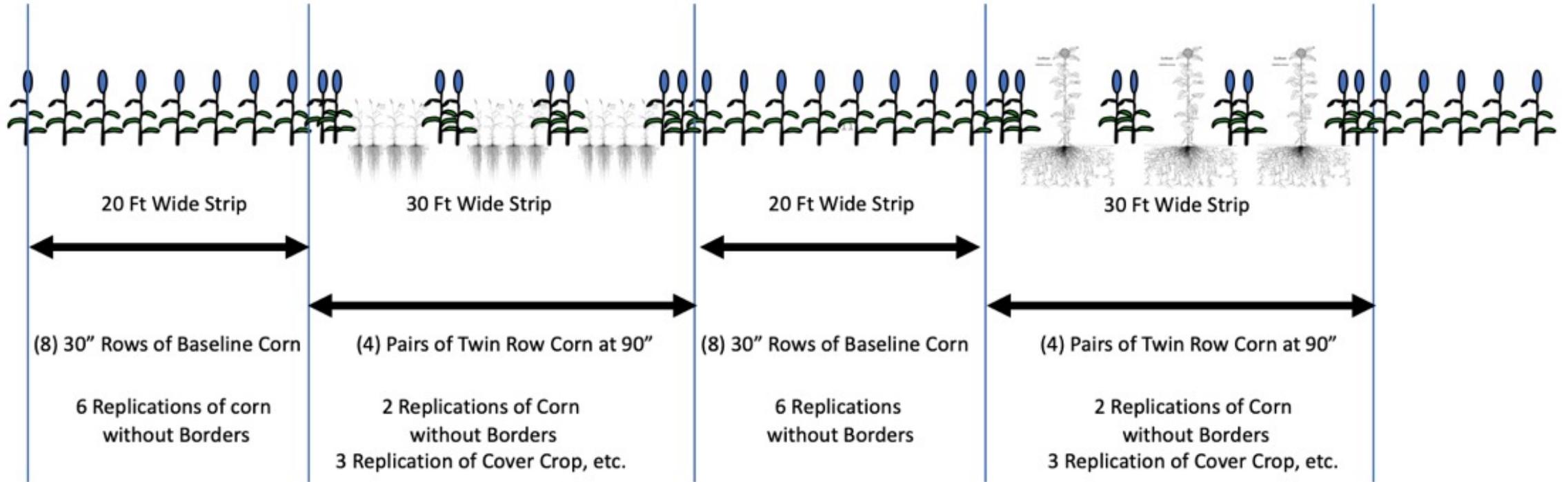
- Soil Inspection-Space + Microscope

Meeting Agenda: Friday, 20 September 2022

- 8:00 – 9:00 Meet and Greet
- 9:00 – 9:30 Mike Cook: Welcome and Farm Background
- 9:30 – 10:00 Bob Recker: Wide Rows, Cover Crops, Opportunity Space
- 10:00 - 10:15 Mike Cook: Companion Crops, Vegetables, etc.
- 10:15 – 10:45 Alisha Sedlmayr: Soil Observations, Microscope, etc.
- 10:45 – 11:00 Bob Recker: Equipment Considerations

- 11:00 adjourn for light lunch, break-out conversations, “open mike”

Typical Plot layout



Detail Single Plant Studies

- 30" Baseline
- 60" Single Row
- 90" Twin Row

- All Planted by the same planter on 17 May 2022, 28 K population
- 5 Gallon/acre of "Pop-up" fertility with planter
- Sidedressed 100#/a with 28%N on 15 July 2022
- Cover Crop Drilled 12 August 2022-except baseline
- Weeds Mowed 18 August 2022 (60 & 90" Rows only)

Plot 30011 “Shop”

Learning from 2021

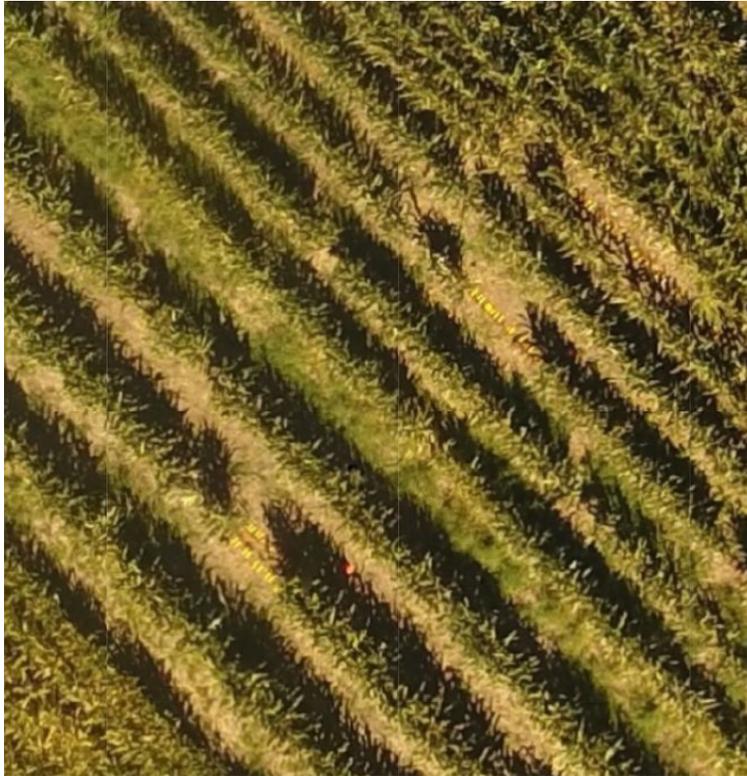
1. Severe Nitrogen Shortage
2. Severe Rainfall Shortage
3. Potential excellent site for vegetables
4. Low land heavy soil is very thin
5. Now has cover crop-Benefit



Complete Row Crop Failure in 2021

2022 Plot 30011 Much Better Corn Crop!

Field Day Single Plant Ear Layouts



Much Better Corn
Crop in 2022

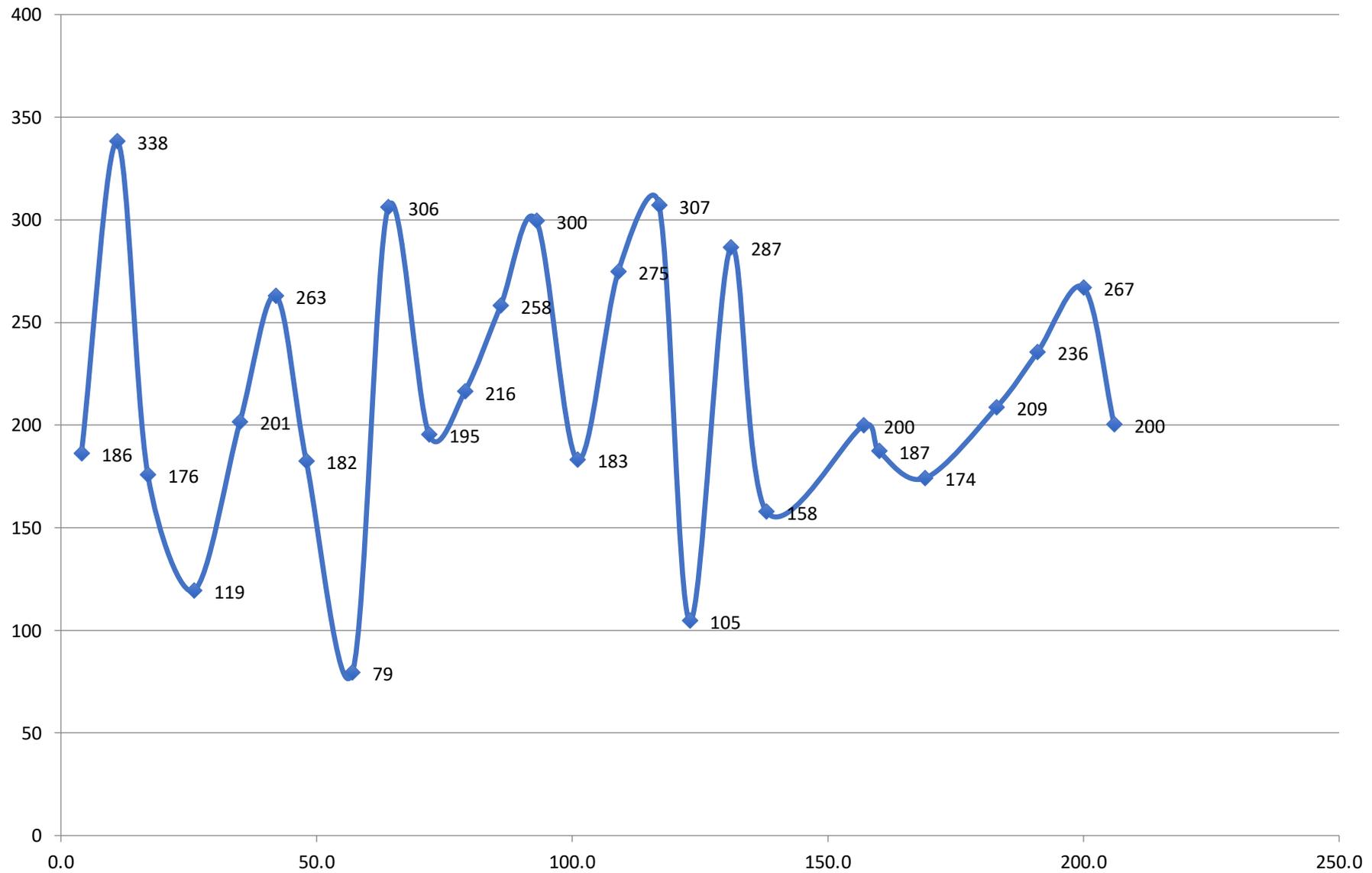
Less Successful
Cover Crop in 2022



Photo: 30" Baseline Rows



Yield vs. Distance along Row 30" Baseline Rows



Yield vs. Ear Weight

30" Baseline Row

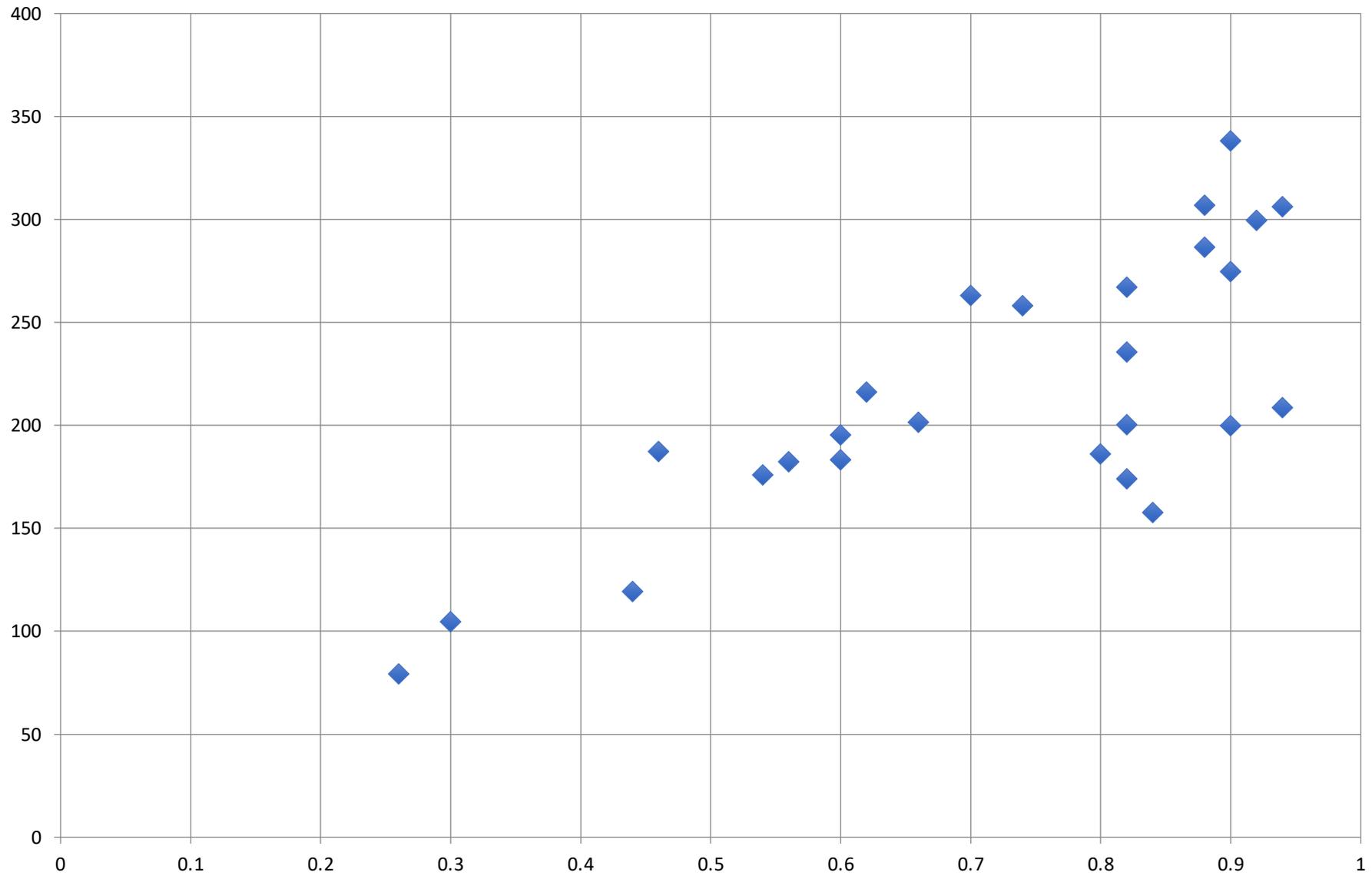
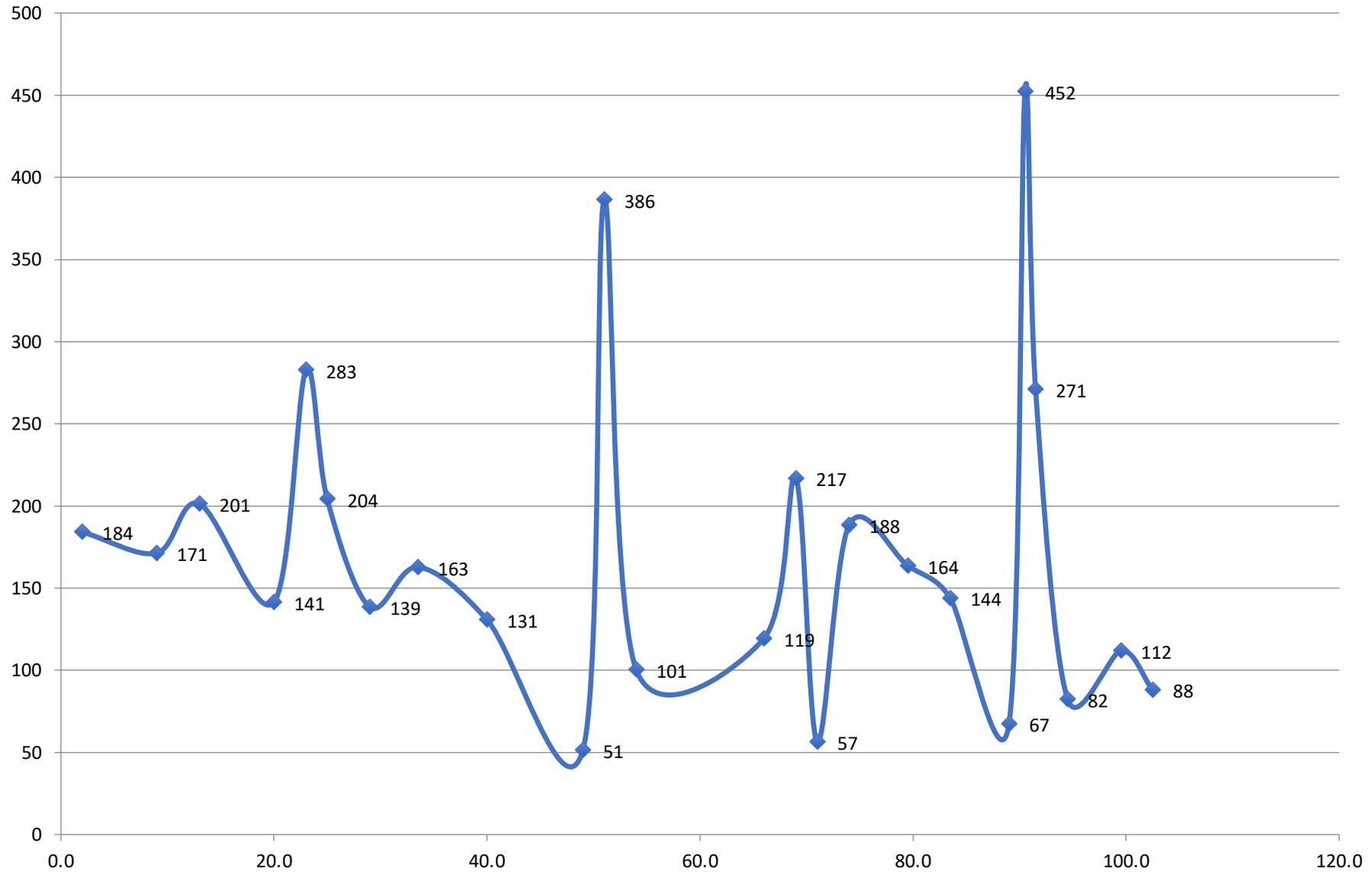


Photo: 60" Single Row



Yield vs. Distance along Row 60" Single Row



Yield vs. Ear Weight 60" Single Row

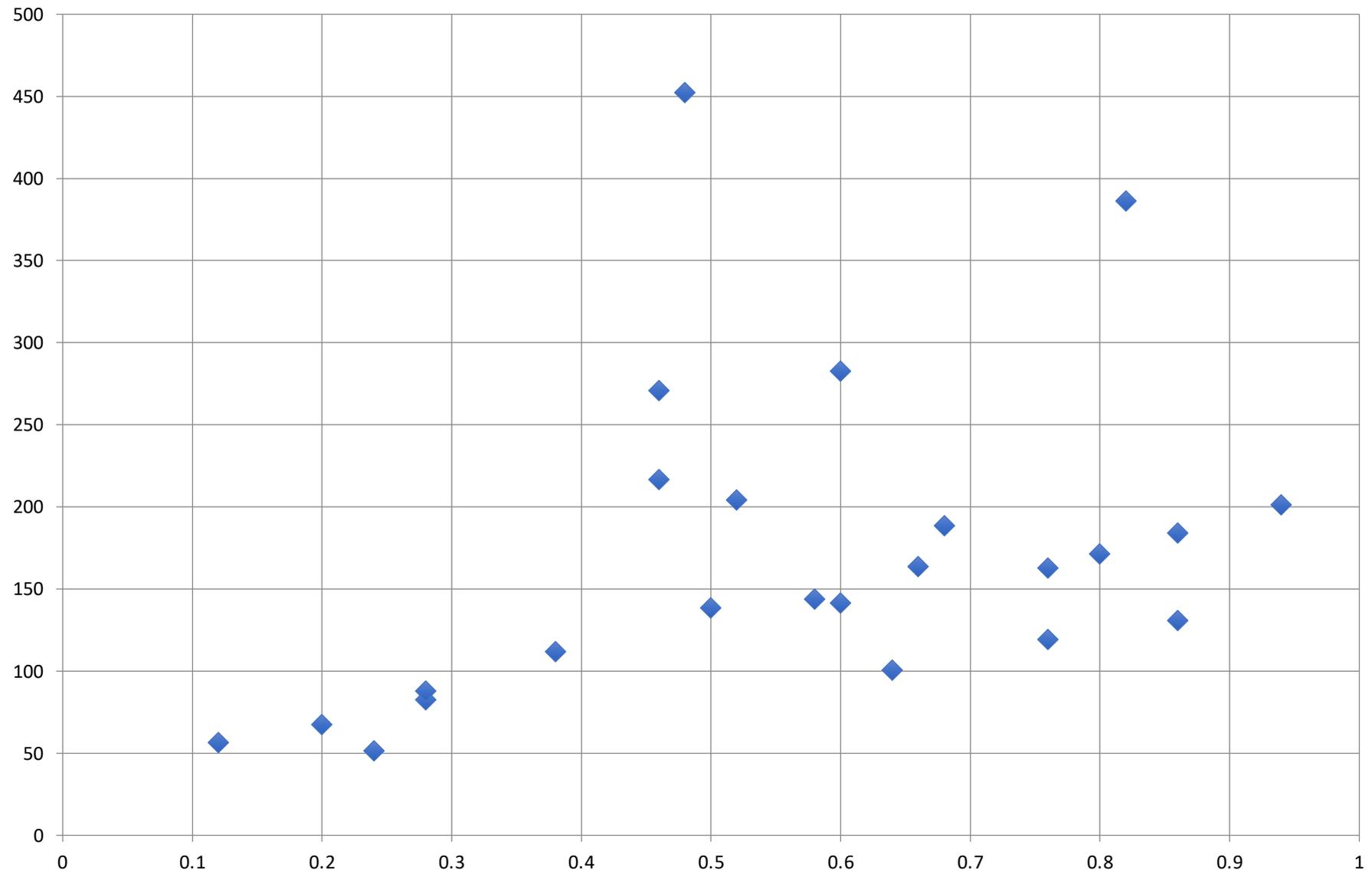
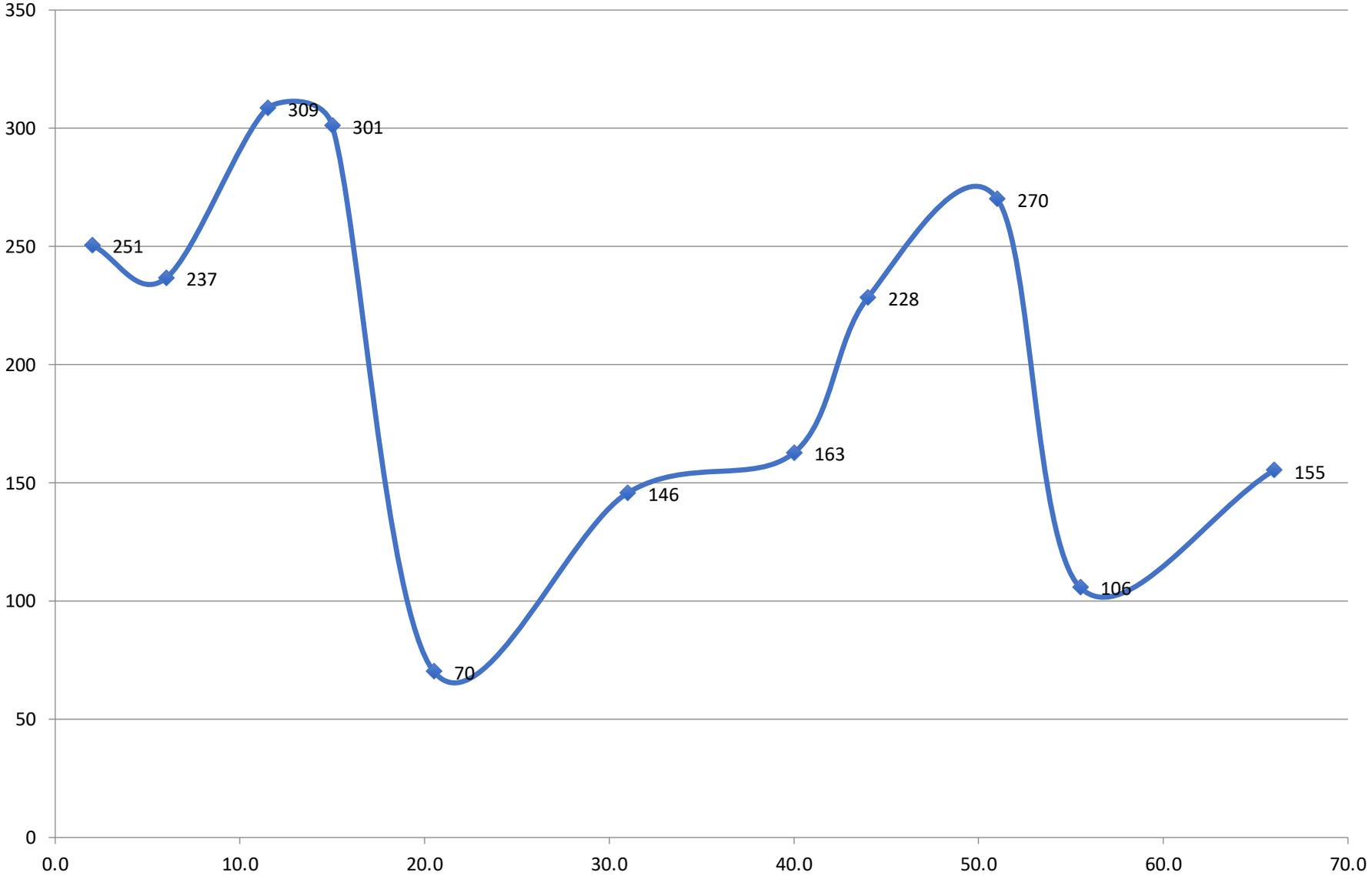


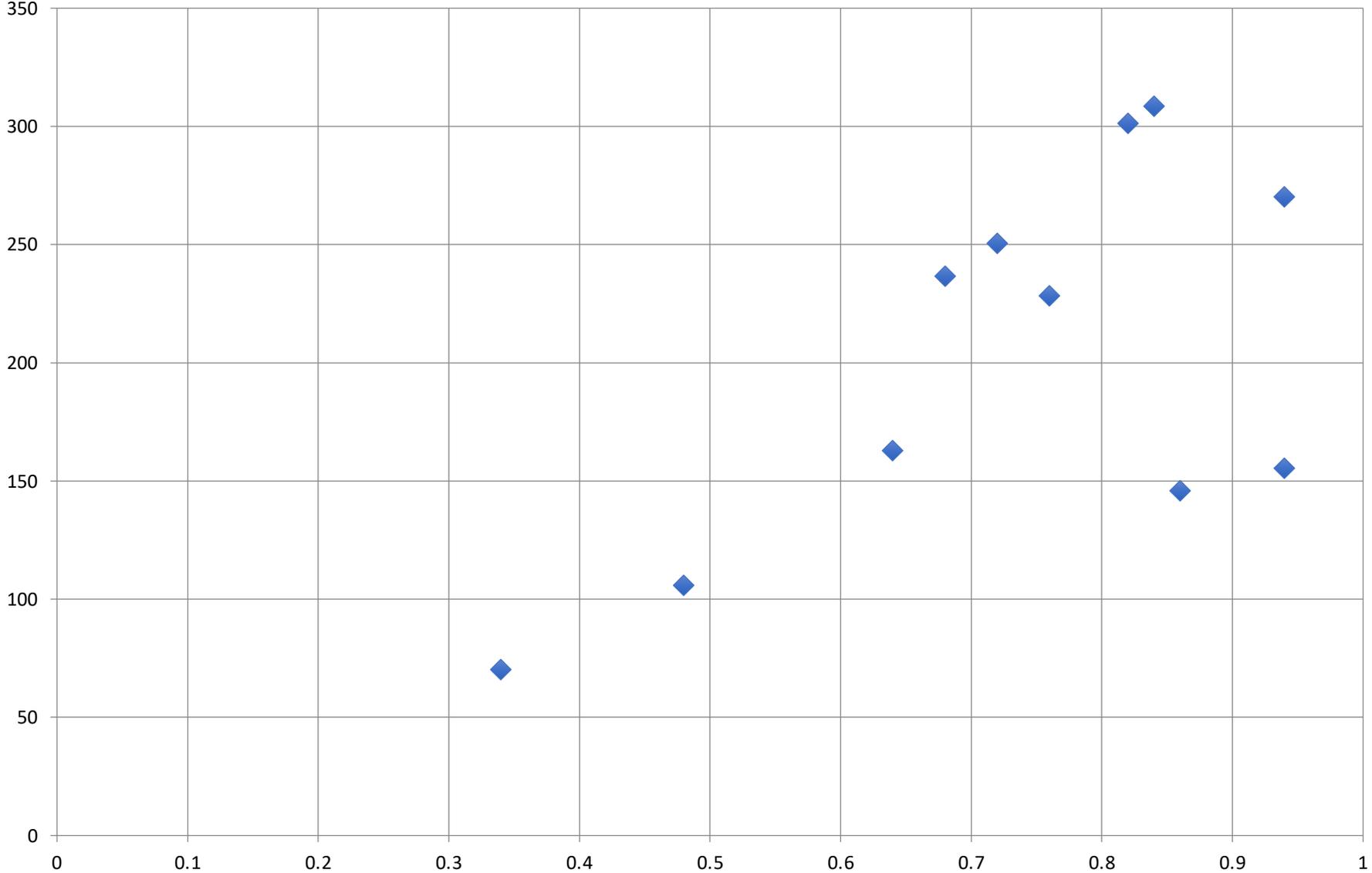
Photo: 90" Twin Row



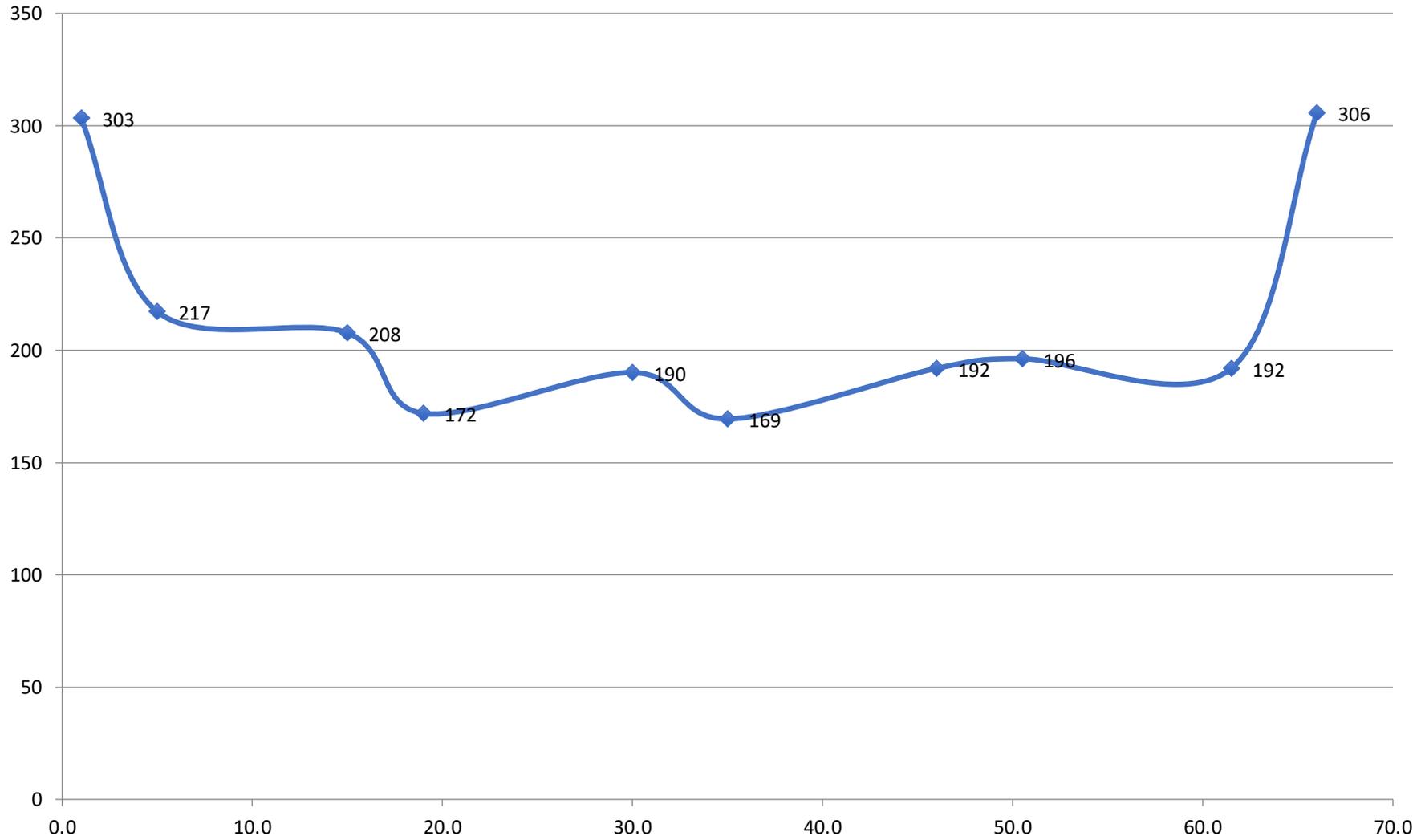
Yield vs Distance Along Row 90" Twin Row; NorthEast Half



Yield vs. Ear Weight
90" Twin Row; NorthEast Half

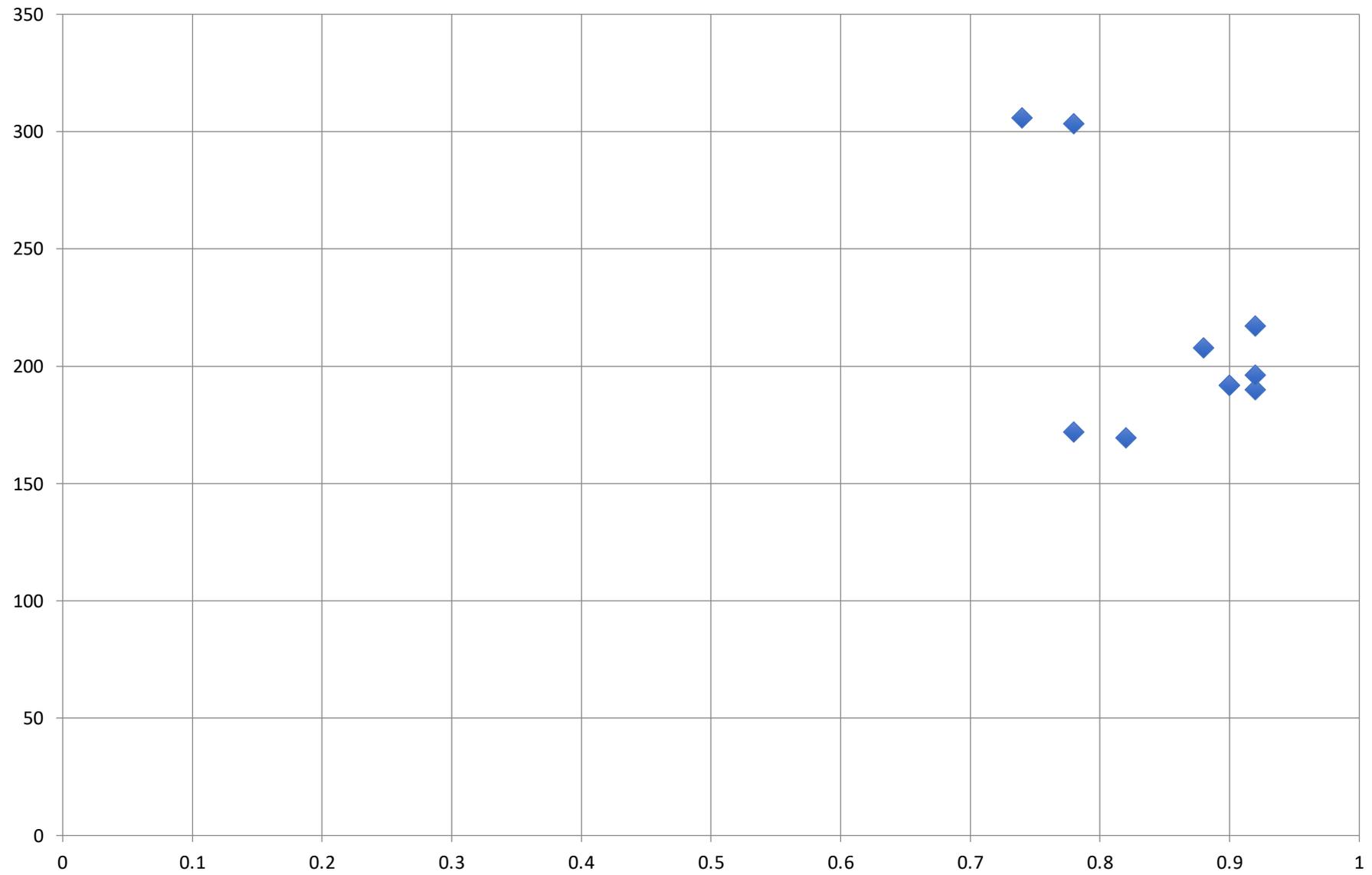


Yield vs Distance Along Row 90" Twin Row; SouthWest Half



Yield vs. Ear Weight

90" Twin Row; SouthWest Half



Hand Picked plot Data Analysis

	Yield, Bu/a	Plants	Ears		Lbs Wet Ears	Average Ear Weight	Acres in Plot	C.O.V of Weight		Bu/a per Plant	YLD adjusted to same Population		
											26,000		
30 in Row	211	26	26	Weight Grouping by plant Including little multiples	18.66	0.718	0.001033	28%		8.12	211		
30 in Row w/o Multiples	187	26	26		16.58	0.638	0.001033	36%		7.19	187		
60 in Row	152	24	24		13.48	0.562	0.001002	41%		6.33	165		
90 in (East Half)	185	11	11		8.02	0.729	0.000513	26%		8.41	219		
90 in (West Half)	205	10	10		8.56	0.856	0.000495	8%		10.25	267		
												E-W Delta	
												20	As Is
Total 90 In Row	195	21	21		16.58	0.790	0.001008			9.29	241	48	Pop Adjusted

Summary of Single Plant Harvest Review

1. Population Matters!
2. Understanding the cause of missing plants and small plants/ears- and addressing the cause-will lead to higher yields, regardless of row spacing
3. 90" Twin Row corn yield approaches 30" yield and creates a relatively wider Opportunity Space

Planter with Adjustable Row Units



30" Rows with or without in-furrow liquid or dry



60" & 90" Single or Twin Rows with or without in-furrow liquid and/or dry

Spring 2022 Corn
Planting

+ Compost Tea w/fish
+ BioChar



Early
Establishment
of Cover crops
is key to weed
suppression in
wide rows



Summer
Drilling of
Cover Crops in
Wide Rows can
extend the
season



Junior 2022

Saddle Tanks for
more capacity,
Engine driven
pump for more
flow and
controllability



Junior 2022

Coulter or
Drip Applied
Liquid in 60"
and wider
rows. 30"
rows okay
early in the
season

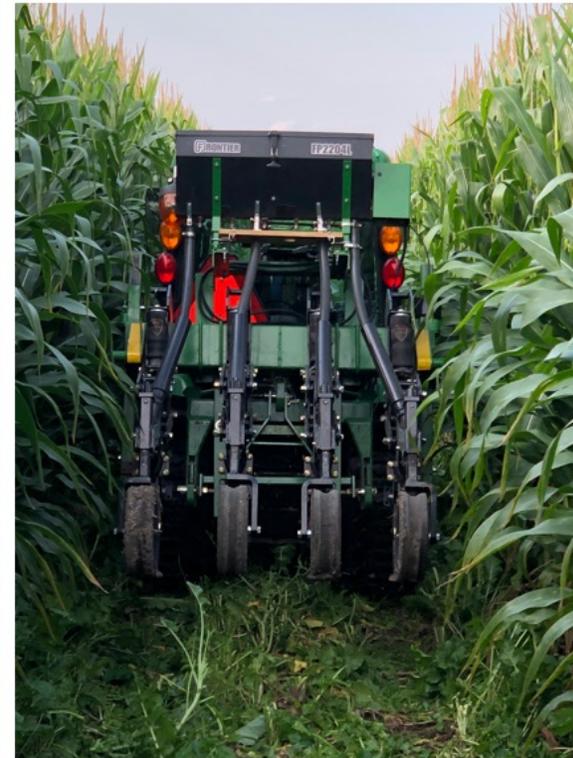


MonTag meter for Junior/DuoSeed Drill in 2022



<https://www.montagmfg.com/gen-ii-2108/>

Small equipment and wide rows enable plot execution on a reasonable scale





Mowing Cover Crop
and Weeds will be
used to
limit/manage
competition to Corn
in Wide Rows



Later Season
Cover Crop
Management to
favor corn
production?



Later Season
Nutrient and
Cover Crop
Seeding

Potential for next
season set-up



Cover Crop Applied

Warm Season Soil Builder

GREENCOVER

Drill seed at 3/4" to 1" depth or broadcast and lightly incorporate when soil temperatures are 60 degrees or higher.

Species	Wt %	Origin	Germ	Purity	Test
Flax	6.7%	SD.	91 %	99.10 %	12/21
Trophy Rapeseed	3.3%	ID	95 %	99.76 %	2/22
African Cabbage	3.3%	OR	93 %	99.66 %	4/22
Florida Broadleaf Mustard	3.3%	ID	84 %	99.68 %	1/22
Mancan Buckwheat	10.0%	NE	95 %	99.99 %	4/22
Black Oil Sunflower	3.3%	NE	95 %	99.92 %	2/22
Okra	3.3%	OK.	85 %	99.96 %	3/22
Tifleaf III Hybrid Pearl Millet	10.0%	TX	95 %	99.74 %	4/22
SCS Yield Max PPS Sorghum	16.7%	TX	85 %	98.10 %	3/22
Red Ripper Cowpeas	13.3%	FL	95 %	96.27 %	6/22
Laredo Forage Soybeans	13.3%	NE	90 %	99.60 %	4/22
Mung Beans	6.7%	OK	93 %	96.79 %	4/22
Junn Hemp	6.7%	India	85 %	99.50 %	3/22

AMS: 7110 Lot Number: 3319

Net wt: 50 lbs

For more information:

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