



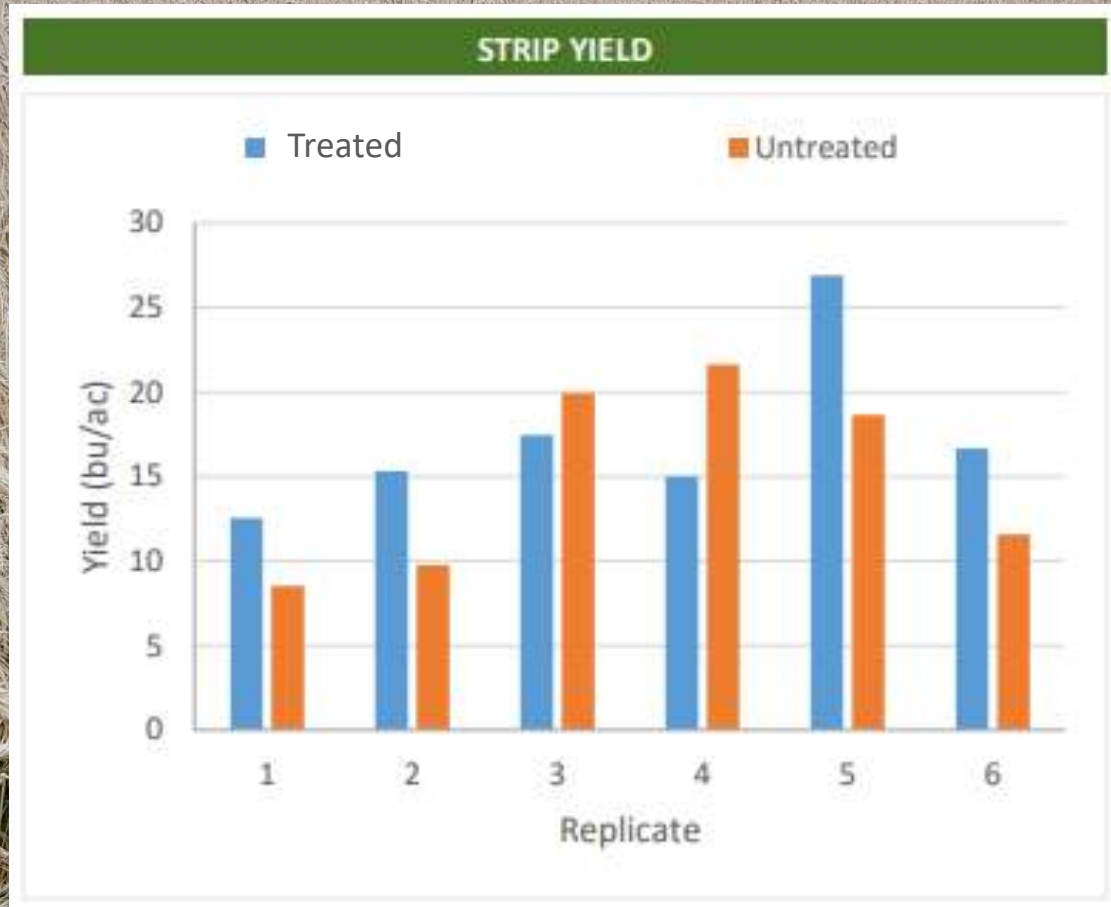
On-Farm Trials

MOA Spring Seeding Workshop

Jordan Karpinchick, CCA

April 2, 2019

Side x Side....is it a trial??



Trial Objective

- **The purpose of an on farm trial is to quantify and compare the agronomic and economic impacts of an alternate treatment versus normal practices**

Setup

- **Keep it simple – 1 or 2 treatments**
- **Replication – target 6 replicates, minimum 4**
- **Select an area within a field with the least variability**
 - Soil topography, elevation, cropping history etc.
- **Strip length should be at least ¼ mile**

1	160,000 seeds/ac
2	130,000 seeds/ac
3	190,000 seeds/ac
4	160,000 seeds/ac
5	190,000 seeds/ac
6	130,000 seeds/ac
7	160,000 seeds/ac
8	190,000 seeds/ac
9	130,000 seeds/ac
10	190,000 seeds/ac
11	160,000 seeds/ac
12	130,000 seeds/ac

In-Season

- **Flag, map and GPS trial area**
- **Manage trial area the same as the rest of the field**
- **Data collection to help understand yield results**
 - **Plant counts, soil test, soil types, disease ratings, rainfall, NDVI imagery etc.**



Harvest

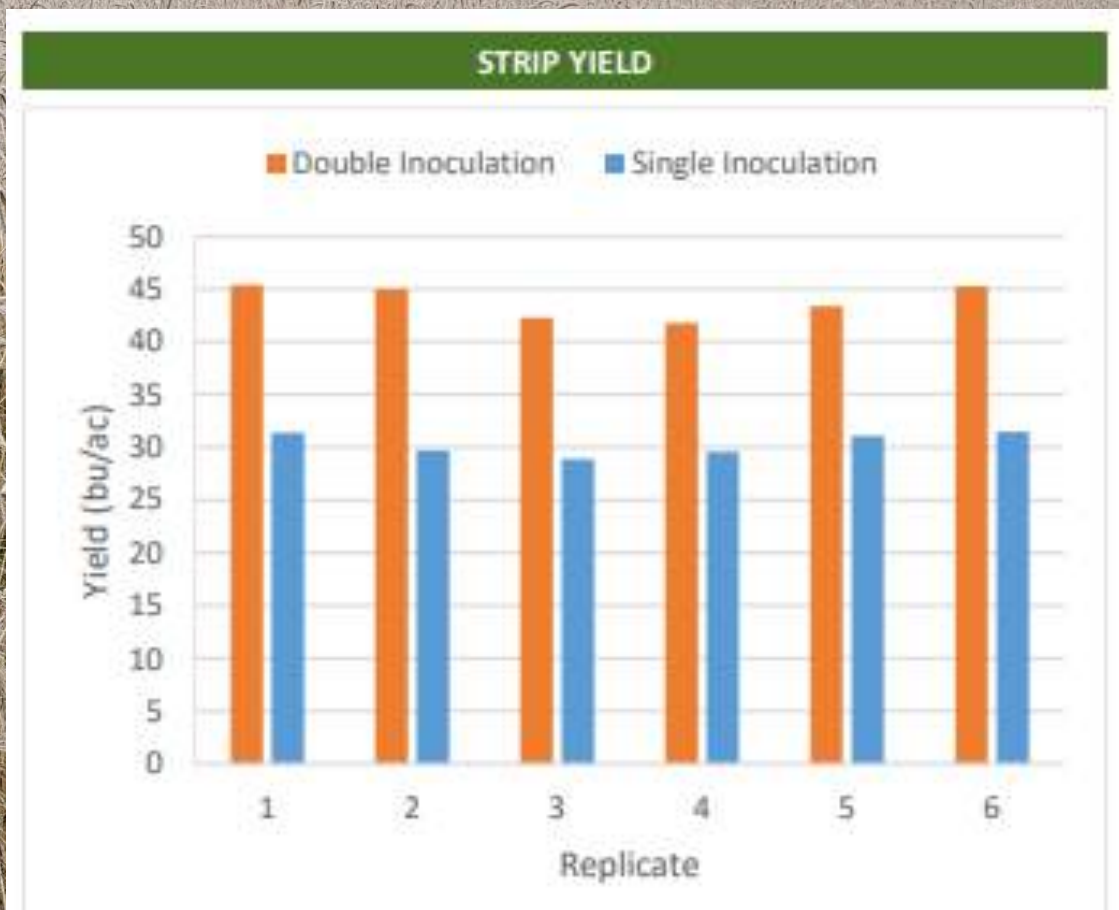
- **Must ensure a 'pure' combine swath taken from each strip**
- **Grain Cart with scale!!**
 - Less than 50 kg increments needed
 - Detecting yield differences <5% (0.5 bu)
- **Record yields**



Post-Harvest

The perfect trial result

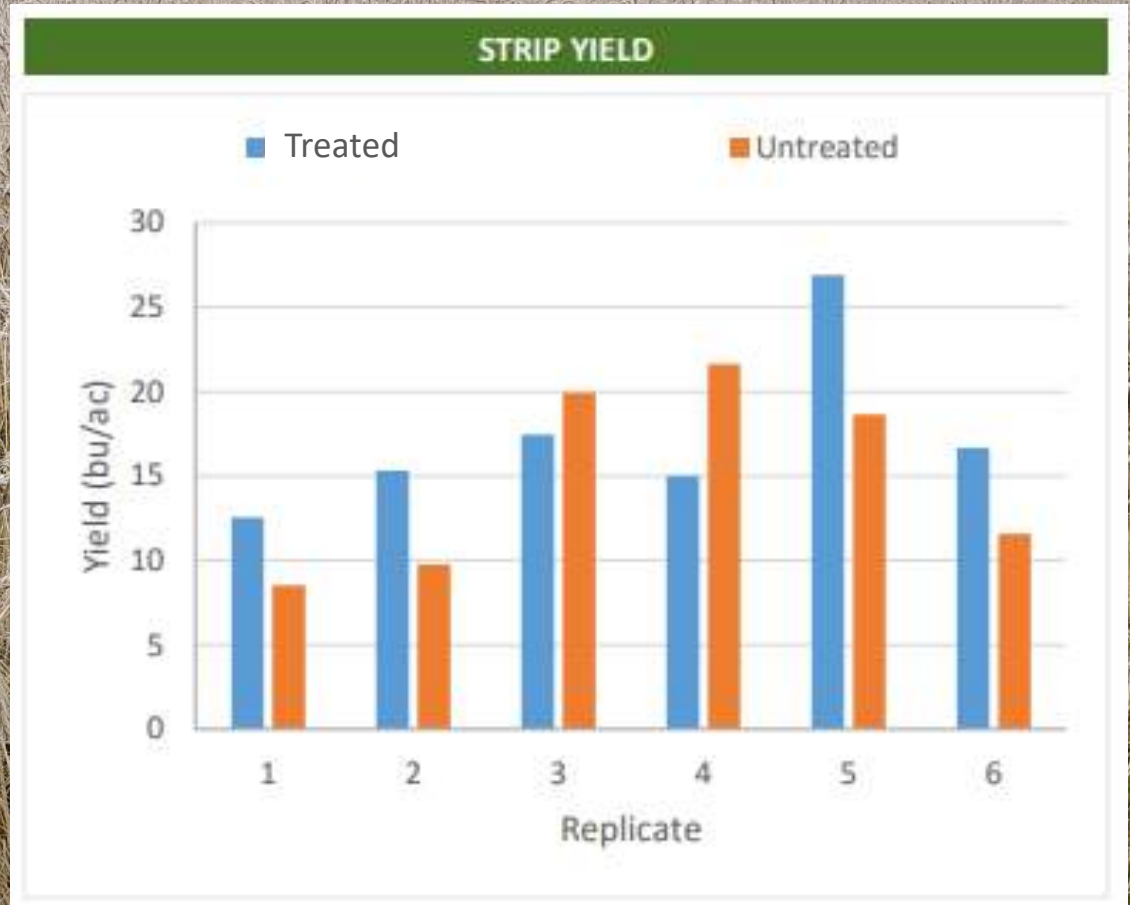
OVERALL YIELD	
	Mean (bu/ac)
Double Inoculation	43.9
Single Inoculation	30.4
Yield Difference	13.5
P-Value	<0.0001
CV	19.3%
Significance	Yes



Post-Harvest

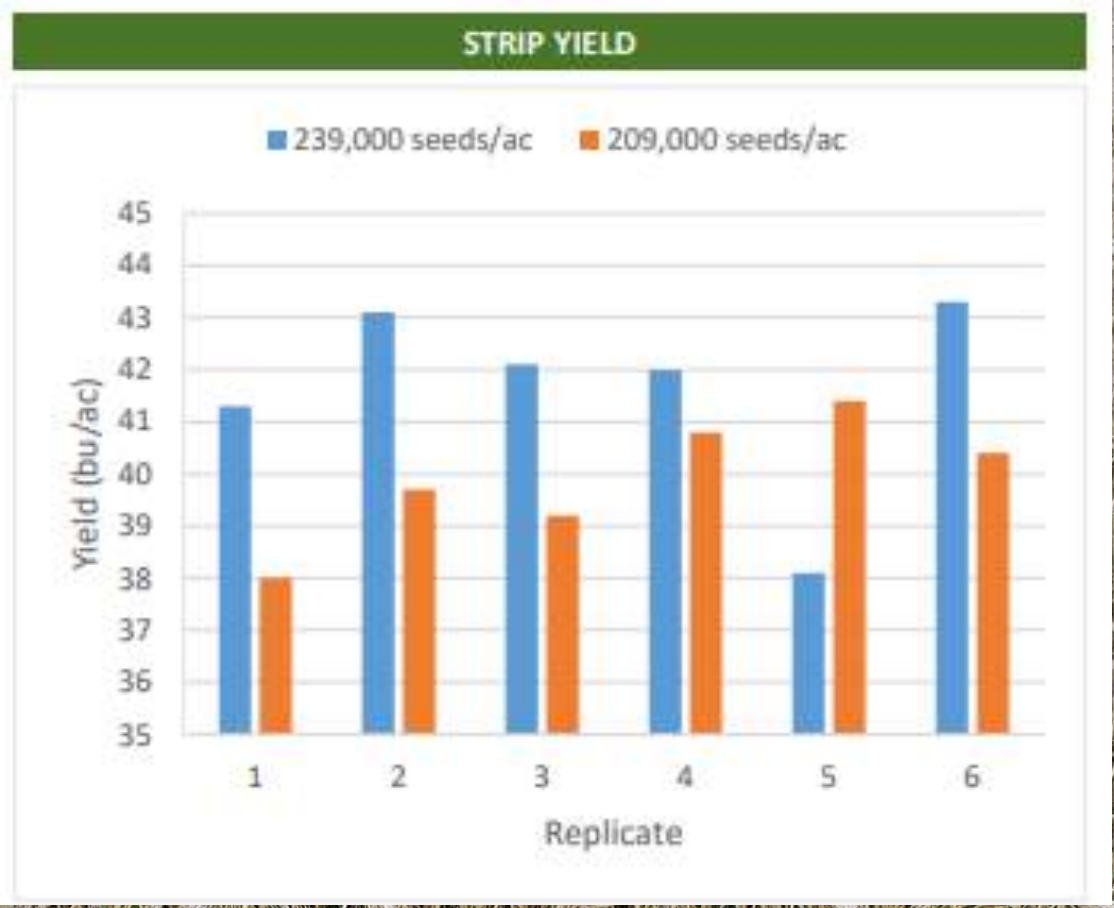
The not so perfect trial result

OVERALL YIELD	
	Mean (bu/ac)
Cruiser Maxx Vibrance Beans	17.3
Untreated	15.0
Yield Difference	2.3
<hr style="border-top: 1px dashed black;"/>	
P-Value	0.3594
CV	32.4%
Significance	No



Post-Harvest

OVERALL YIELD	
	Mean (bu/ac)
239,000 seeds/ac	41.7
209,000 seeds/ac	39.9
Yield Difference	1.8
P-Value	0.1622
CV	4.3%
Significance	No



Apps

- <https://agrimetrixapps.com/field-statistics/#/>



Acknowledgements



Aaron Churchman

@milklips1

A buddy said his yellow peas were doing 65. I said prove it sent me this.

[#combinecrazy](#)



- **MPSG**
- **Agrimetrix Research & Training**

Yield Monitor vs. Scale

#	Location	Yield Monitor Type	Type of Scale	Scale Increment (lbs/kg)	Yield Difference Scale (bu/ac)	Yield Difference Combine (bu/ac)	Difference (Combine and Scale) (bu/ac)	% Difference Bushels (Scale vs. Combine)
1	Roland/16	Trimble FM-1000	Grain Cart	50 kg	-0.2	-0.1	0.1	1.20%
2	Elgin/16	NH Intelliview III	Grain Cart	20 kg	0.4	0.3	0.1	7.91%
3	Arden/16	JD 2630 GS3	Weigh Wagon	2 lbs	0.8	1.0	0.2	5.29%
4	Warren/16	JD 2630 GS3 ¹	Weigh Wagon	2 lbs	0.5	0.7	0.2	9.40%
5	Beausejour/17	JD 2630 GS3	Weigh Wagon	2 lbs	0.5	0.3	0.2	0.19%
6	Valley River/17	NH Intelliview III	Weigh Wagon	5 lbs	2.6	2.4	0.2	1.93%
7	Elm Creek/17	Case AFS Pro 600	Weigh Wagon	5 lbs	0.2	0.4	0.2	3.28%
8	Lac du Bonnet/17	JD 2630 GS3	Weigh Wagon	2 lbs	0.4	0.1	0.3	4.58%
9	Lorette/17	JD 2630 GS3	Grain Cart	10 kg	-0.1	-0.4	0.3	15.80%
10	Dencross/16	Case AFS Pro 700	Grain Cart	20 lbs	-0.1	-0.5	0.4	5.42%
11	Homewood/17	JD GS1	Weigh Wagon	2 lbs	1.5	1.9	0.4	0.62%
12	Dencross/17	Case AFS Pro 700	Grain Cart	20 lbs	-1.3	-0.8	0.5	5.22%
13	Carman/16	JD GS1	Weigh Wagon	2 lbs	0.1	-0.6	0.7	5.75%
14	Elgin/17	NH Intelliview III	Grain Cart	20 kg	-0.5	0.2	0.7	3.42%
15	Sperling/17	JD 2630 GS3	Weigh Wagon	2 lbs	-0.1	0.6	0.7	1.04%
16	Sperling/16	JD 2630 GS3	Grain Cart	20 lbs	0.6	-0.2	0.8	4.71%
17	Arden/17	JD 2630 GS3	Weigh Wagon	5 lbs	0.8	-0.7	1.5	3.83%
18	Petersfield/16	JD 2630 GS3	Grain Cart	10 kg	0.2	1.8	1.6	1.79%
19	Sperling*/16	JD 2630 GS3	Grain Cart	20 lbs	0.2	-2.2	2.4	2.10%
20	Westbourne/16	JD 2630 GS3	Grain Cart	10 kg	1.2	3.8	2.5	10.01%
Average					0.4	0.4	0.7	4.7%

* Only 5 of 12 strips measured.

¹ New display with older style yield sensor