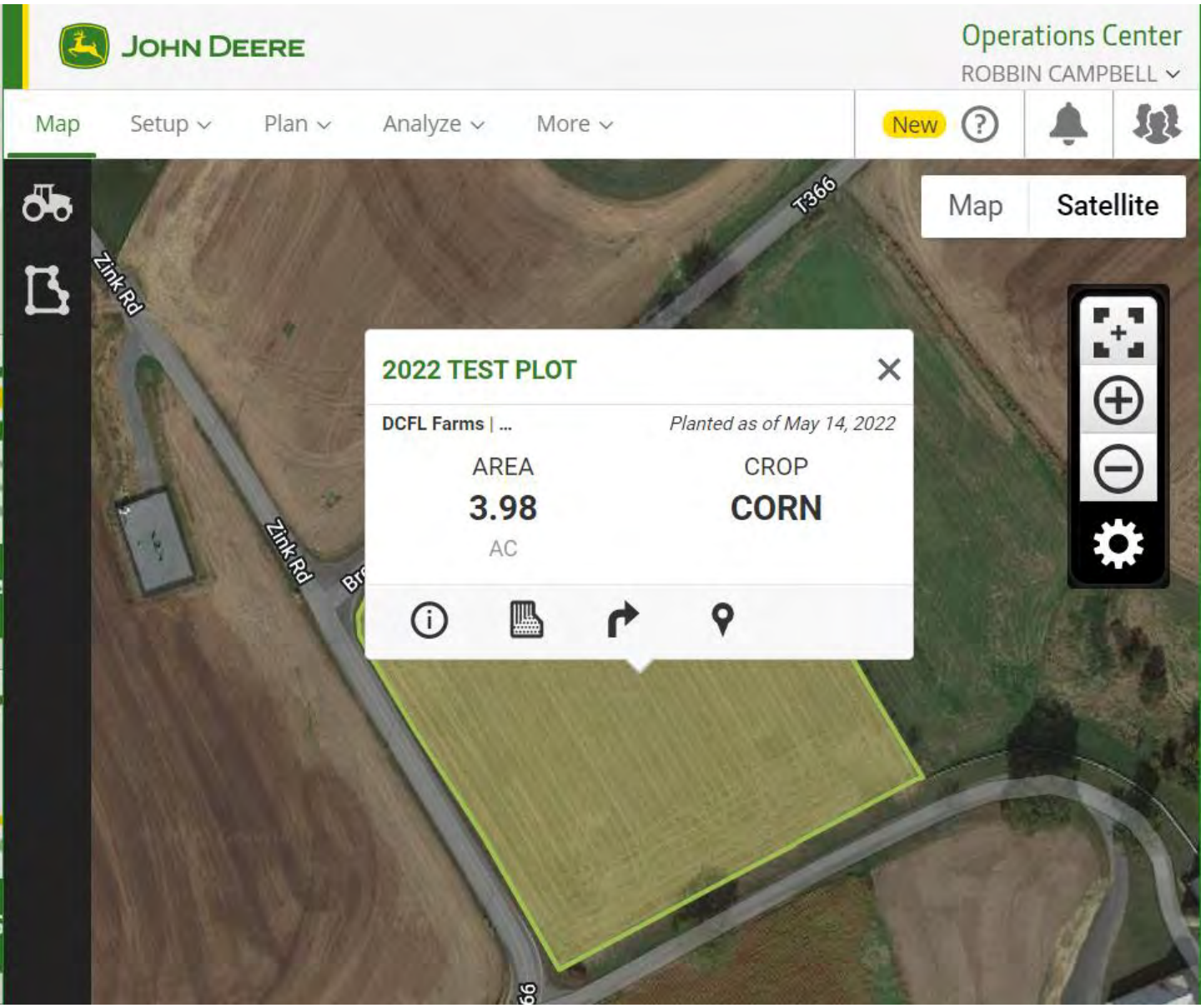
2022 Closing Wheel System Emergence Test Plot

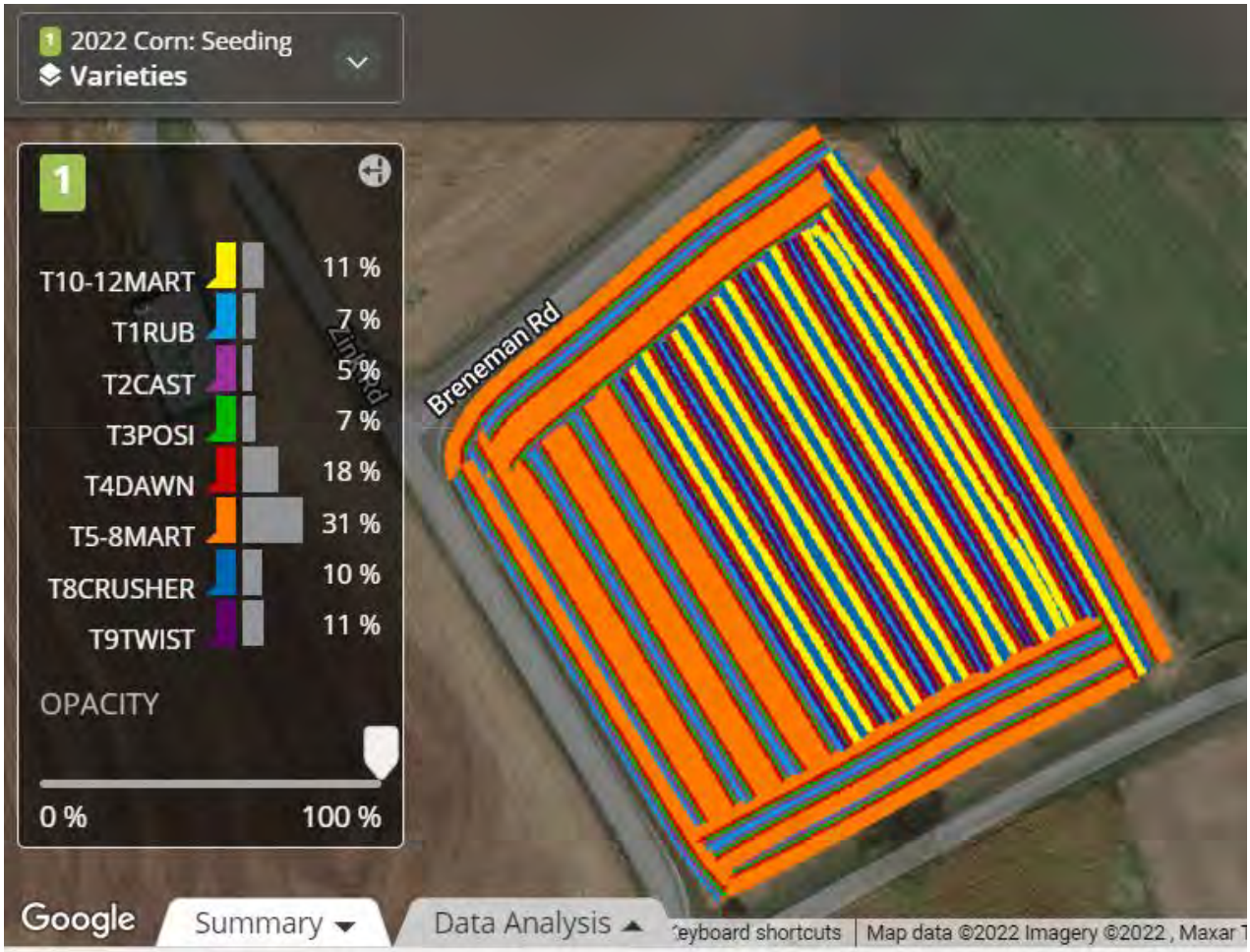
Deer Country Farm & Lawn
Connected Support Department



Test Plot Conditions

- Plant Date & Time: May 14, 2022 at 11:11 AM
- Temperature: 72◦ Ambient Air, 70◦ Soil
- Equipment: John Deere 6215R Tractor pulling John Deere 1745 15 Row 15” Planter with ME5 Meters
- Target Planting Depth: 2”
- Target Downforce: 280 lbs
- Row Cleaner Setting: 20 lbs Upforce
- Target Planting Population: 36,000
- Seed: AgriGold A639-70STXRIB, 109 Day Maturity, 1871 seeds/lb
- Fertilizer: 6 GPA In-Furrow Popup Blend
- Cropping Practices: Previous crop was soybeans. Cover crop wheat was spun on and incorporated with Salford vertical tillage in fall.

Closing wheel system was entered as variety per row to generate this map of the trials. Only 6 can be documented at one time which is why the Martin systems were grouped together. Each trial row was flagged at planting for accuracy when counting. This map was generated to demonstrate the way the field was planted. One pass was made around the entire field. Then two more headland passes were made on the north and south ends. The field was then planted from the west side to the east. The test plot location was the sixth, seventh, eighth, and ninth passes from the west side.



2022 CORN SEEDING: VARIETIES

View in Analyze

2022 TEST PLOT

DCFL Farms | Manheim

WORK TOTALS

Area Seeded	4 ac
Applied Rate	35,800 seeds/ac
Applied Total	141,900 seeds

Test Plot Layout & Procedure

- In the identified test plot passes, two 50 foot lengths were flagged for measuring. This resulted in four replications for each trial.
- Emergence was monitored daily until the first plants to reach V1 were observed in the plot areas.
- V1 was observed on 5/22/22 and daily counting began.
- The same 50 foot lengths were counted for number of plants at V1 and recorded.
- Counting concluded when a consistent number of plants were recorded at V1 for each trial and emergence was complete.

Closing Wheel Test Plot Results

Closing Wheel System Name	Standard Deviation	Trial #
Martin BSCW1444C with fCrumbler Wheel	3.03	7
Yetter Twister	3.35	9
Martin fCrusher Dual	3.70	8
John Deere Rubber Wheel	4.79	1
Martin BSCW1344DC with Rubber Wheel*	4.95	6*
John Deere Cast Iron Wheel	5.17	2
Dawn Curvetine	5.24	4
Martin BSCW1444C	5.31	10
Martin BSCW1344D	5.56	5
Martin BSCW1344D with fCrumbler Wheel	6.00	12
Schlagel Posi-Wheel	7.25	3
Martin BSCW1344DC*	10.91	11*

*See next page

Notes & Observations

- * Planter row #6 which planted trial #6 Martin BSCW1344DC with Rubber Wheel and #11 Martin BSCW1344DC had a mechanical failure that potentially affected seed depth and emergence. We felt emergence was uniform enough to count and include the data but it cannot be compared.

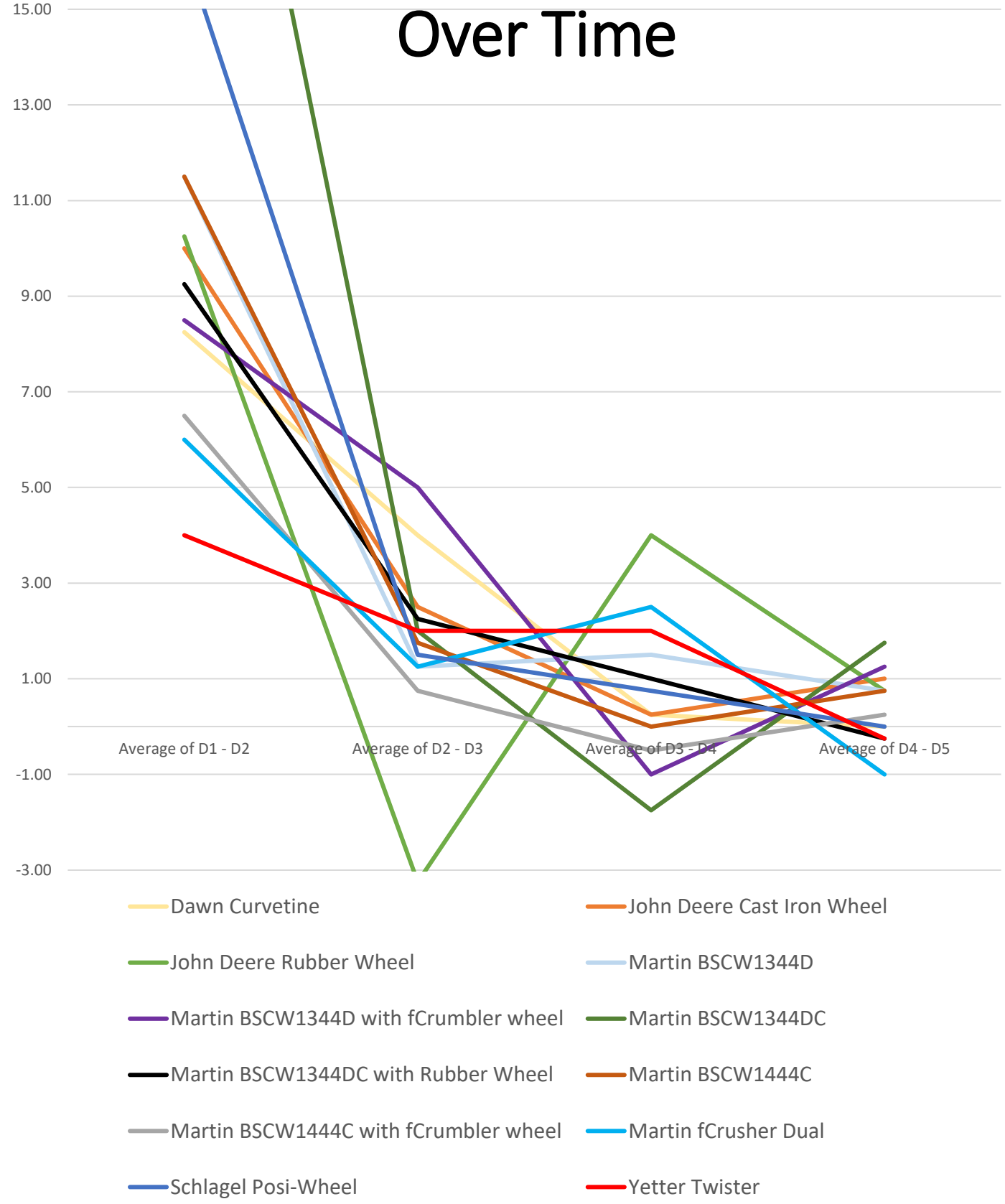
- Standard deviation of the plant count was selected as the best representation of equal emergence and used as the result of the trials. The standard deviation on the previous page for each trial was the average of the standard deviation for each replication.

- Daily plant counts were affected by pest pressure and potential human error during measuring. Some replications have data sets with counts that were less than the day prior.

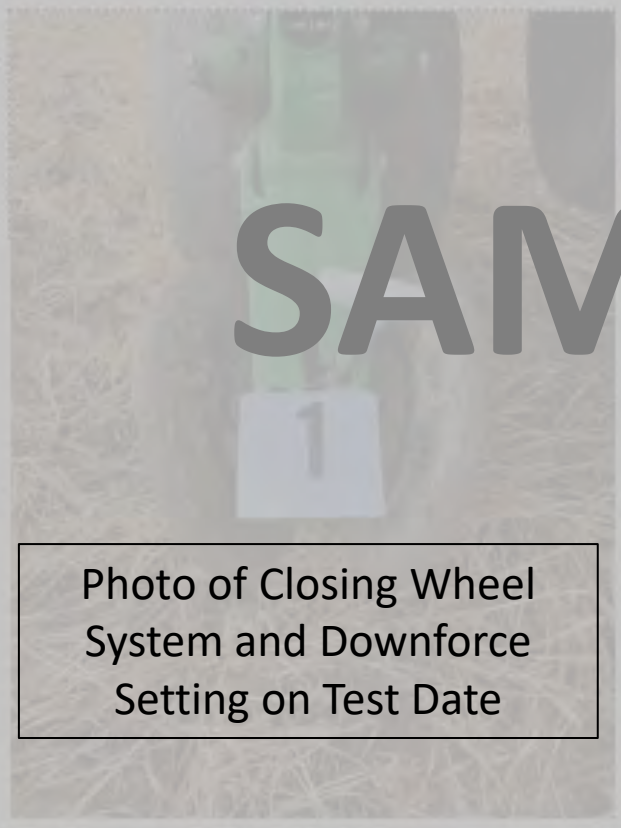
- Testing was conducted over 4 passes in one soil type on a single day. Statistically significant results should be collected over multiple years, soil types, planting conditions, and planting dates.

- Future trials should include more replications and harvestable widths to gain yield data.

Average Plant Count Difference Over Time



Closing Wheel System Name

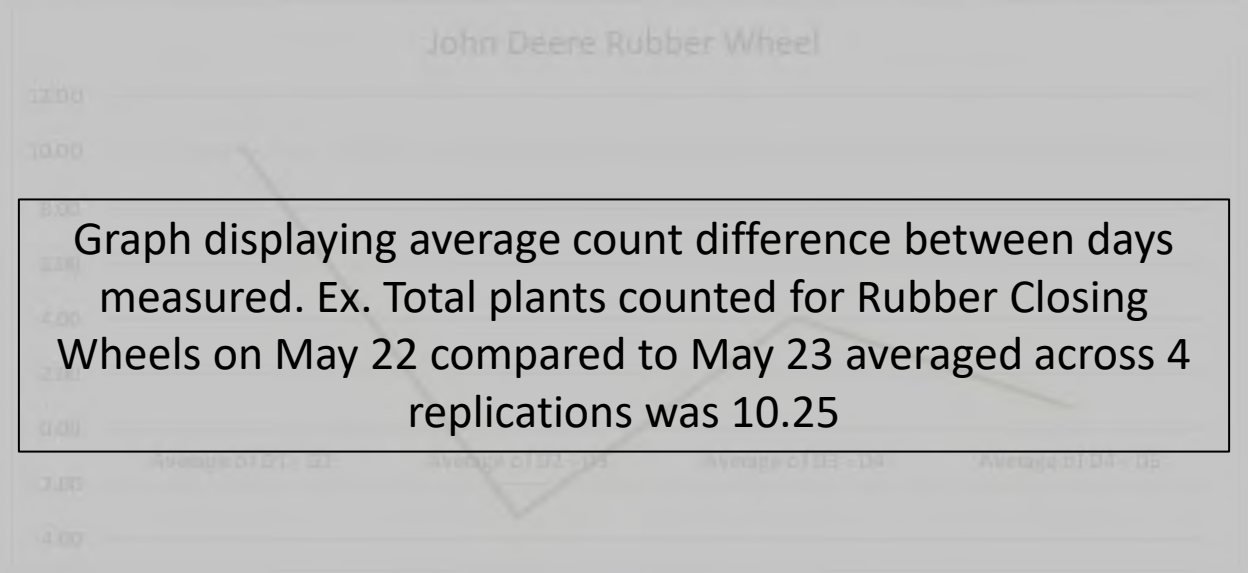


SAMPLE

Photo of Closing Wheel System and Downforce Setting on Test Date

Photo of Excavated Sidewall 2 Weeks After Planting

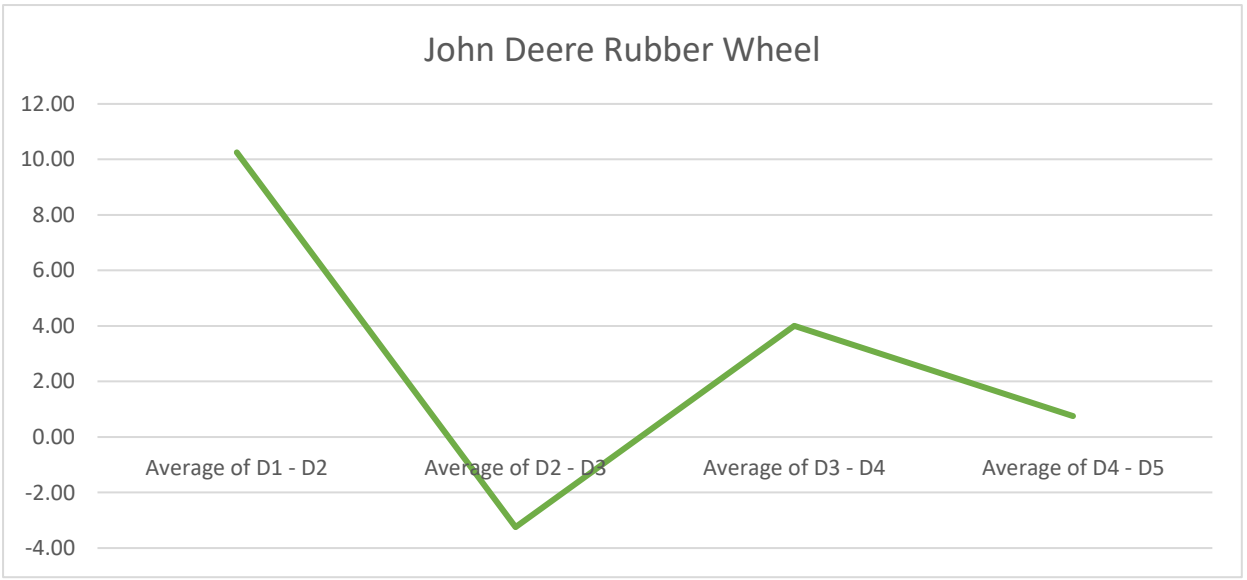
Plant counts for individual closing wheel system over 4 replications with standard deviation for each replication



Graph displaying average count difference between days measured. Ex. Total plants counted for Rubber Closing Wheels on May 22 compared to May 23 averaged across 4 replications was 10.25

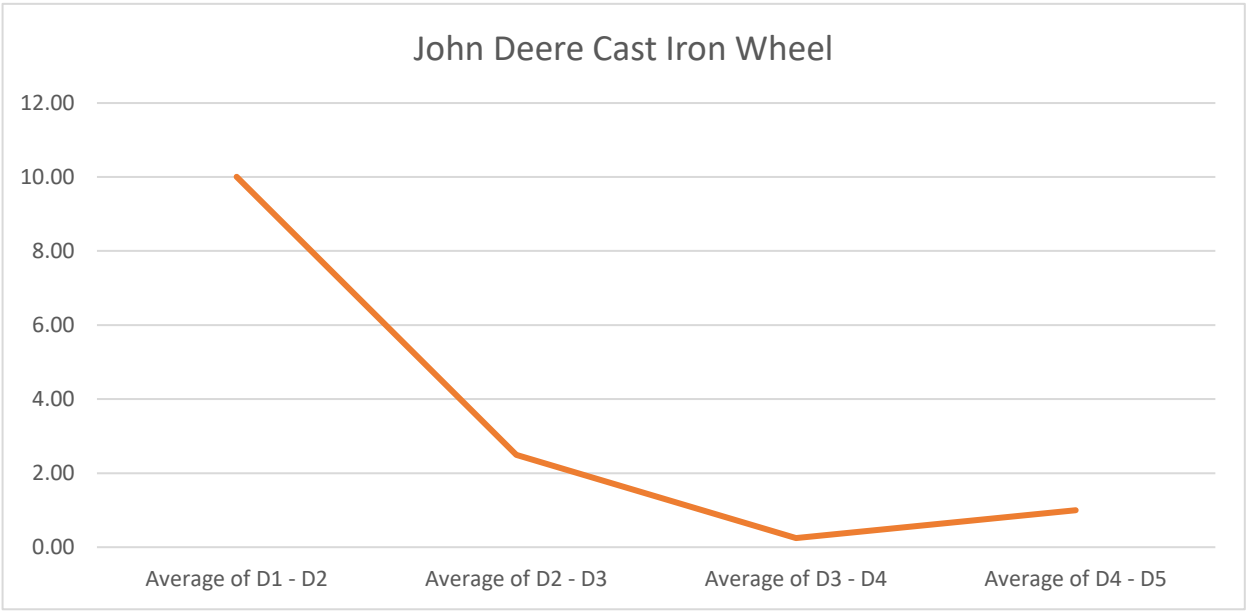
#1 John Deere Rubber Wheels

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	John Deere Rubber Wheel	82	98	98	103	100	7.33
2	John Deere Rubber Wheel	100	101	98	101	103	1.62
3	John Deere Rubber Wheel	87	100	99	98	101	5.10
4	John Deere Rubber Wheel	94	105	96	105	106	5.11



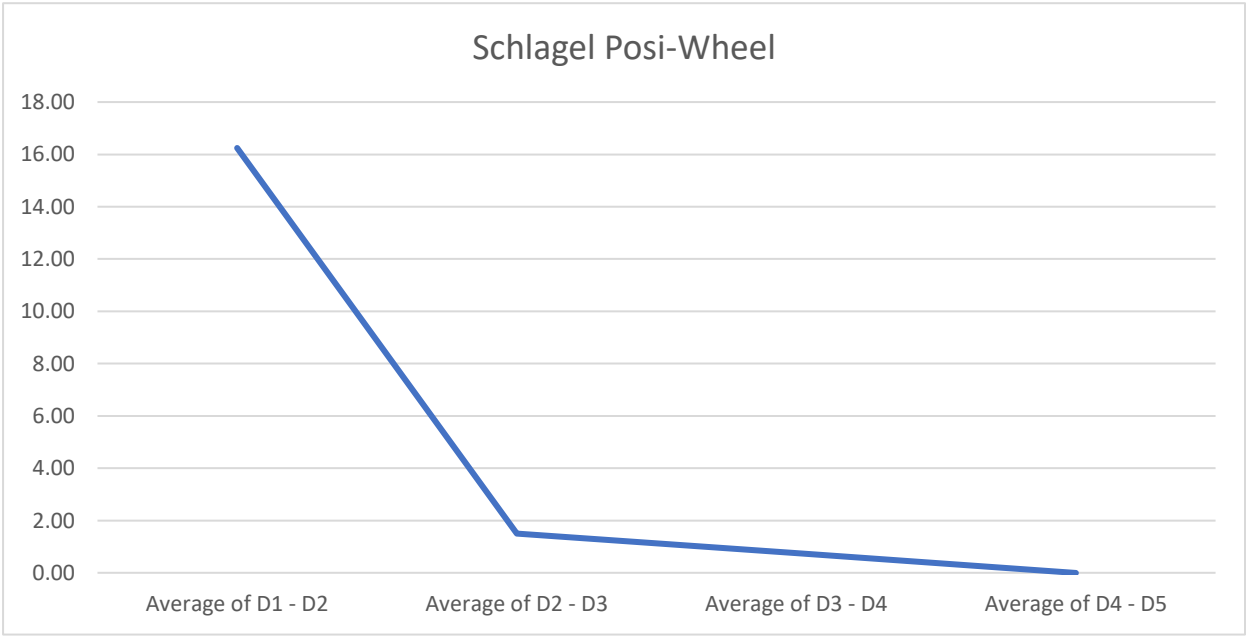
#2 John Deere Cast Wheels

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	John Deere Cast Iron Wheel	87	100	102	101	102	5.75
2	John Deere Cast Iron Wheel	92	94	94	94	97	1.60
3	John Deere Cast Iron Wheel	84	96	99	100	100	6.08
4	John Deere Cast Iron Wheel	81	94	99	100	100	7.25



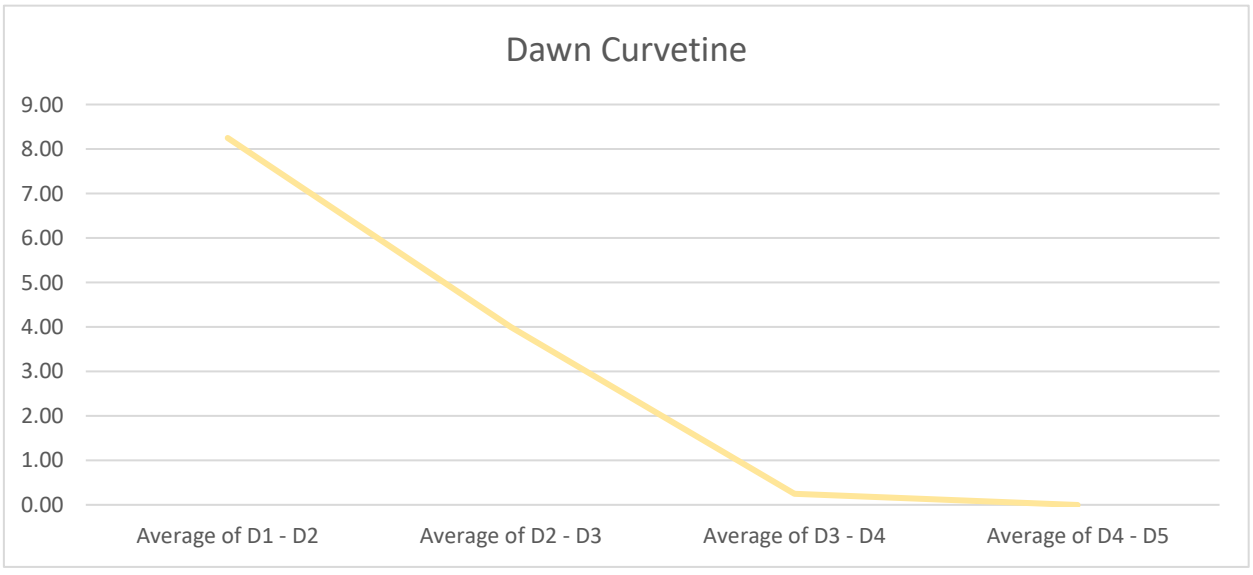
#3 Schlagel Posi-Wheel

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Schlagel Posi-Wheel	86	101	100	99	100	5.64
2	Schlagel Posi-Wheel	83	94	96	99	99	5.91
3	Schlagel Posi-Wheel	78	98	104	103	102	9.72
4	Schlagel Posi-Wheel	80	99	98	100	100	7.74



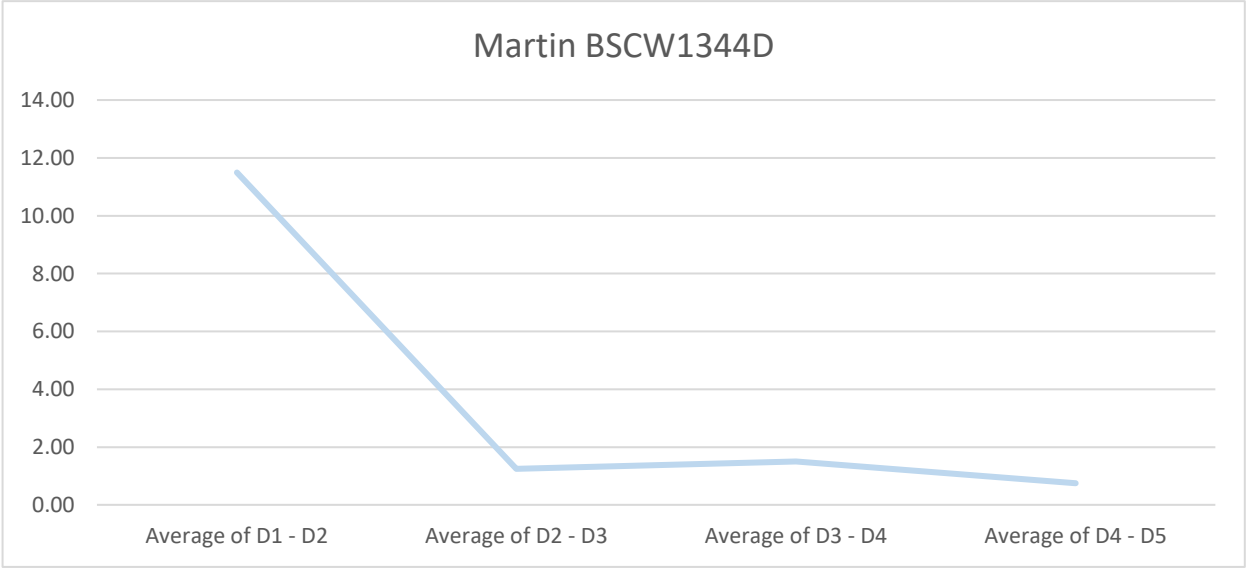
#4 Dawn Curvetine

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Dawn Curvetine	80	93	95	95	94	5.75
2	Dawn Curvetine	78	93	96	97	97	7.25
3	Dawn Curvetine	91	90	99	102	102	5.27
4	Dawn Curvetine	95	101	103	100	101	2.68



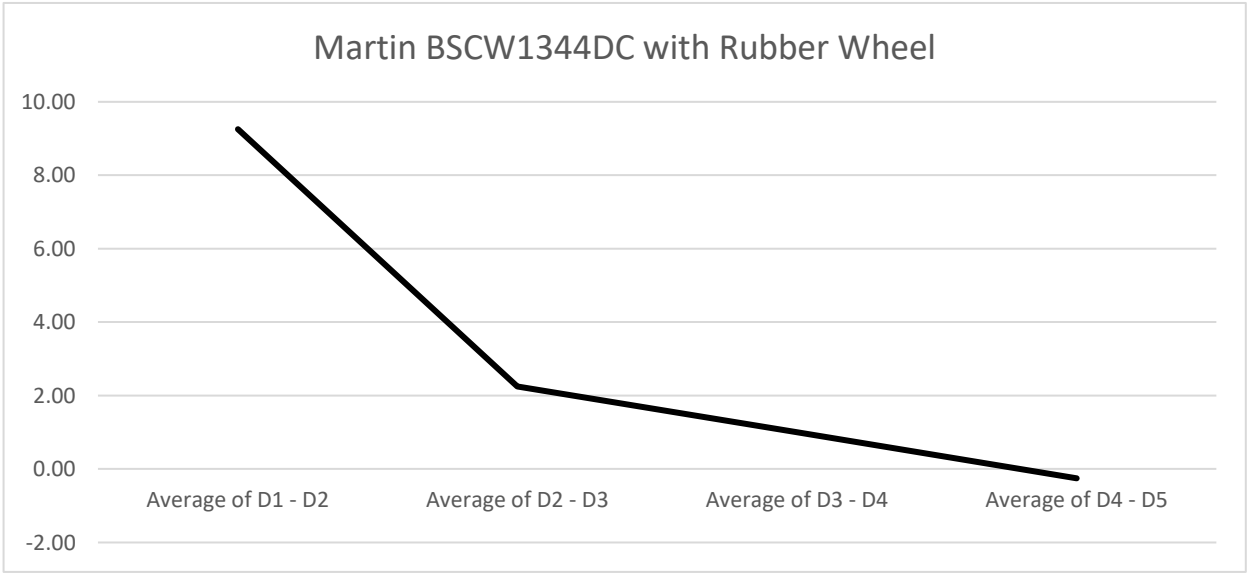
#5 Martin BSCW1344D

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin BSCW1344D	94	101	100	101	103	3.06
2	Martin BSCW1344D	89	102	105	105	105	6.21
3	Martin BSCW1344D	81	93	92	97	96	5.71
4	Martin BSCW1344D	81	95	99	99	101	7.27



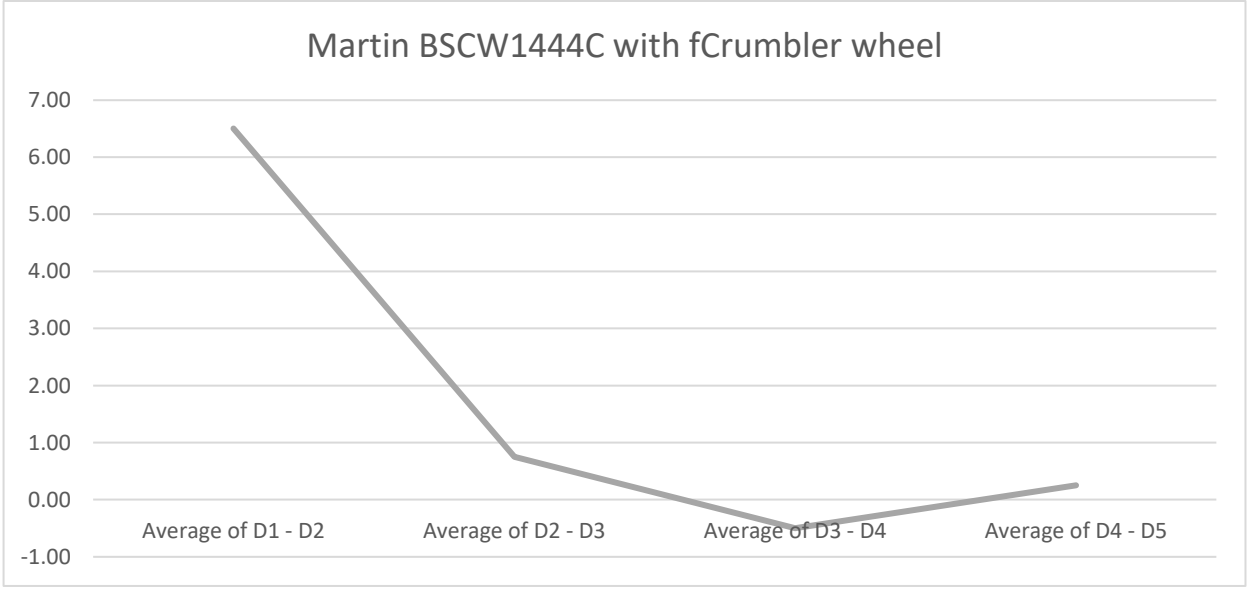
#6 Martin BSCW1344DC w/ Rubber

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin BSCW1344DC with Rubber Wheel	105	109	109	110	108	1.72
2	Martin BSCW1344DC with Rubber Wheel	95	97	95	99	100	2.04
3	Martin BSCW1344DC with Rubber Wheel	77	90	96	95	96	7.25
4	Martin BSCW1344DC with Rubber Wheel	78	96	101	101	100	8.80



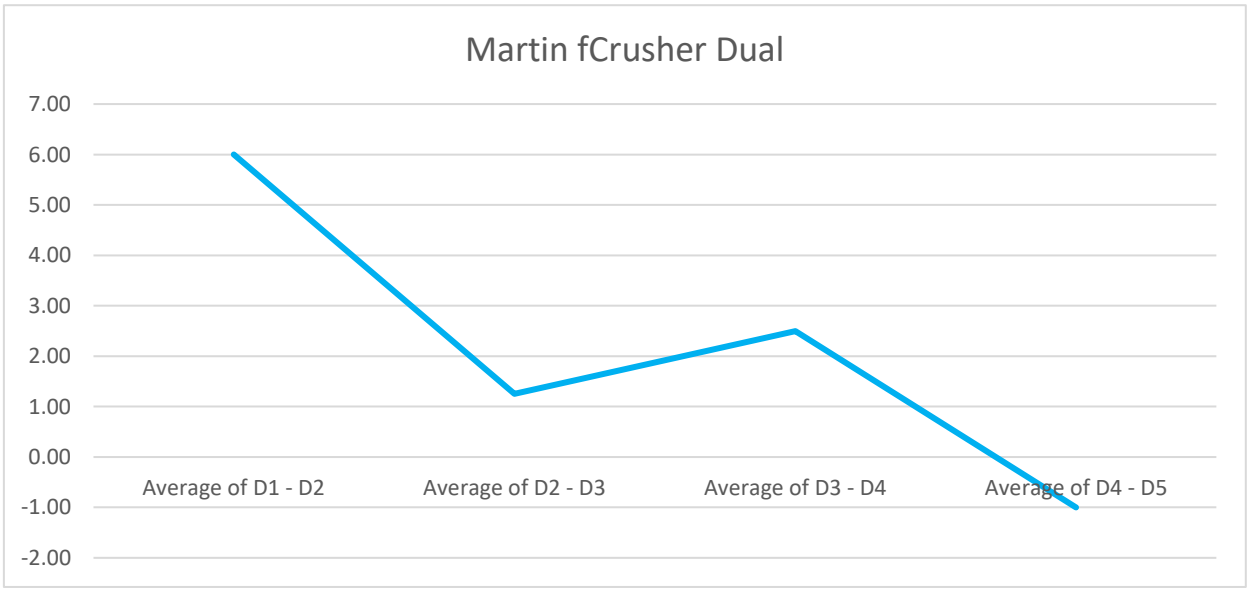
#7 Martin BSCW1444C w/ fCrumbler

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin BSCW1444C with fCrumbler wheel	86	94	91	95	95	3.43
2	Martin BSCW1444C with fCrumbler wheel	89	96	102	96	96	4.12
3	Martin BSCW1444C with fCrumbler wheel	97	103	102	102	103	2.24
4	Martin BSCW1444C with fCrumbler wheel	94	99	100	100	100	2.33



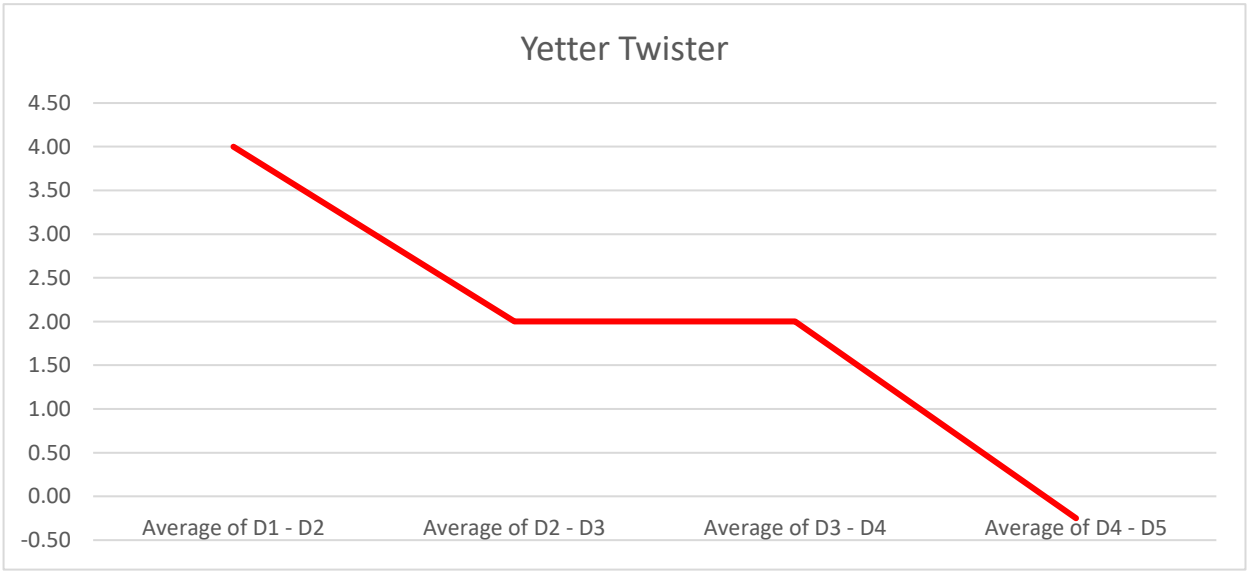
#8 Martin fCrusher

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin fCrusher Dual	97	100	101	100	102	1.67
2	Martin fCrusher Dual	89	93	96	105	99	5.43
3	Martin fCrusher Dual	88	96	95	97	98	3.54
4	Martin fCrusher Dual	87	96	98	98	97	4.17



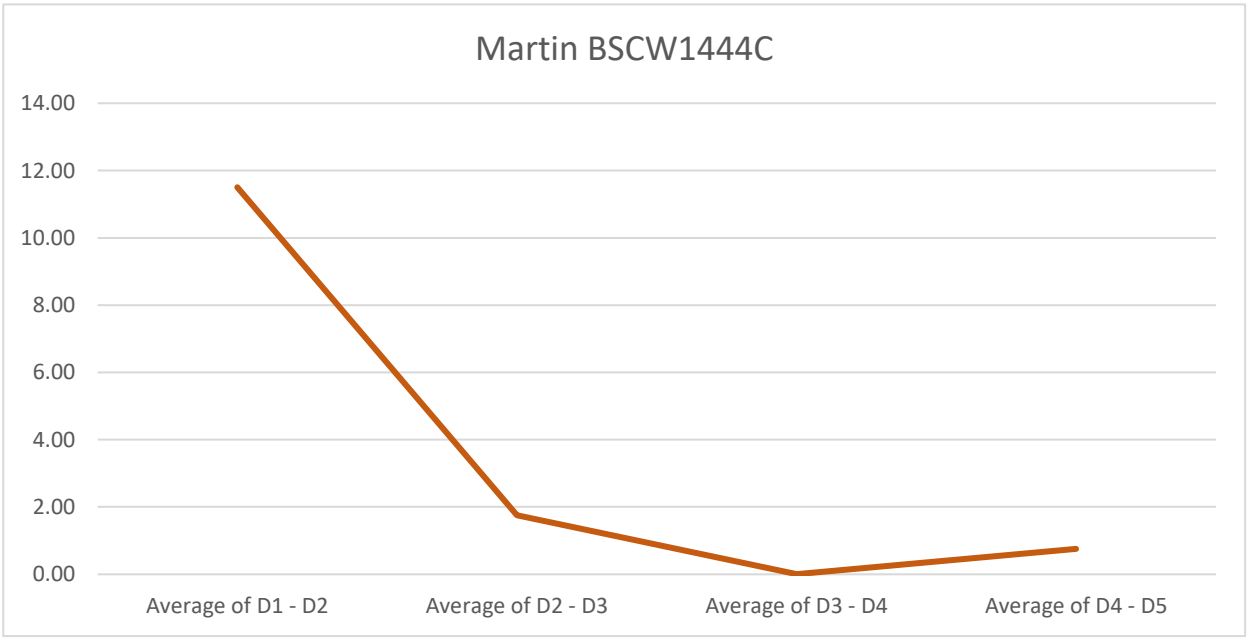
#9 Yetter Twister

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Yetter Twister	96	95	96	99	98	1.47
2	Yetter Twister	100	99	98	99	99	0.63
3	Yetter Twister	82	92	97	99	99	6.43
4	Yetter Twister	85	93	96	98	98	4.86



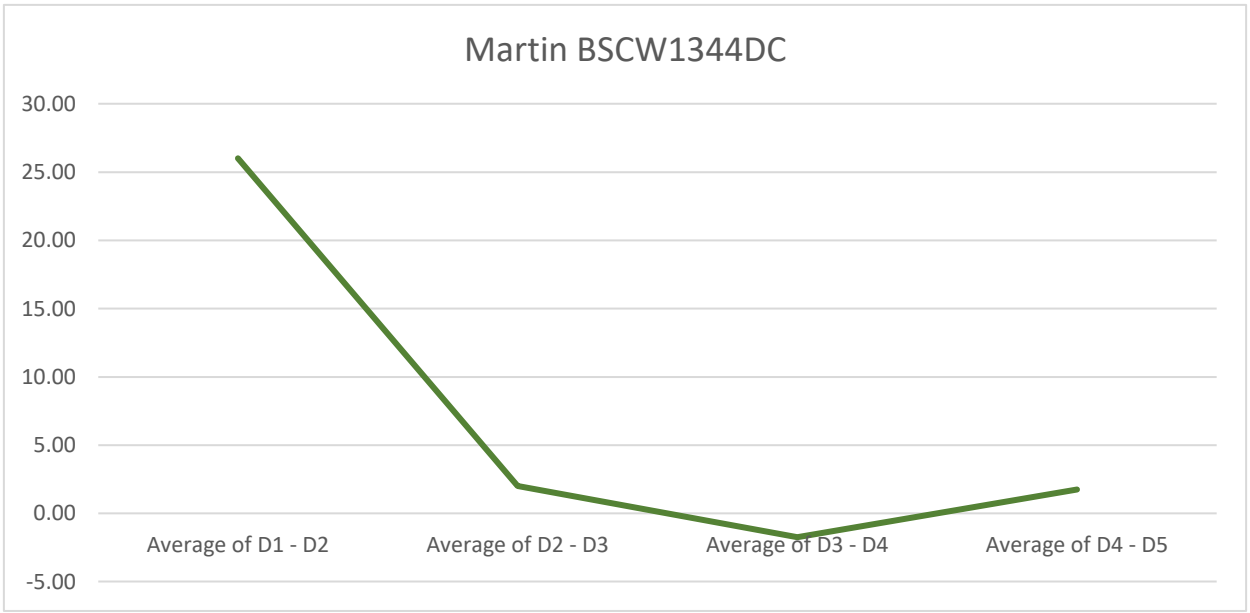
#10 Martin BSCW1444C

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin BSCW1444C	95	99	100	101	101	2.23
2	Martin BSCW1444C	91	99	100	100	99	3.43
3	Martin BSCW1444C	88	101	101	100	102	5.24
4	Martin BSCW1444C	68	89	94	94	96	10.36



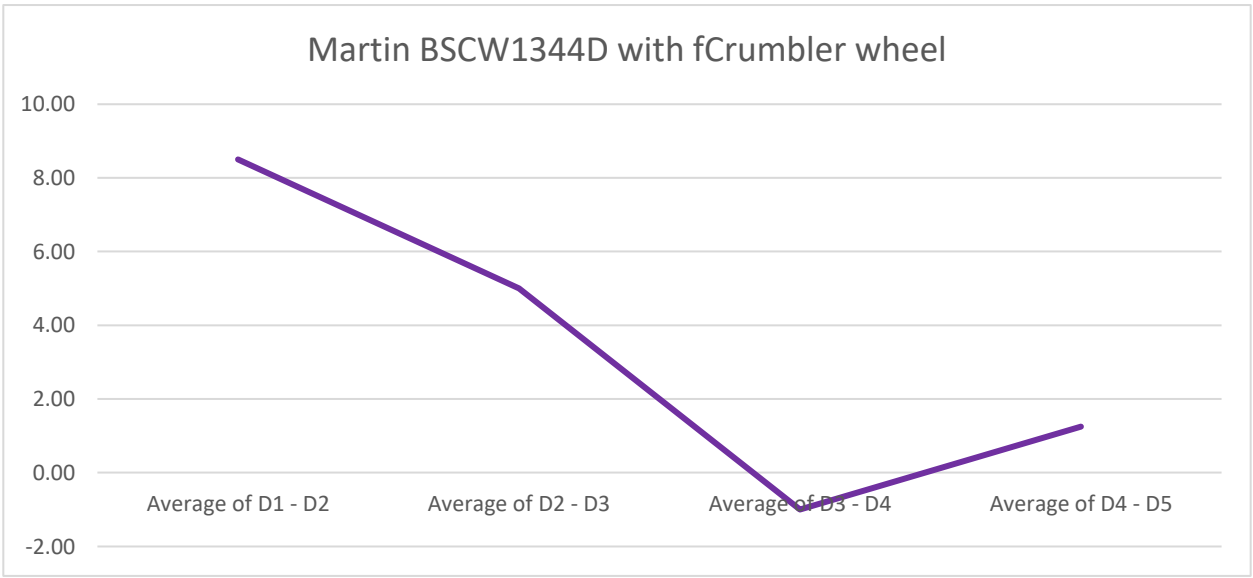
#11 Martin BSCW1344DC

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin BSCW1344DC	91	106	108	106	107	6.34
2	Martin BSCW1344DC	87	97	96	99	99	4.45
3	Martin BSCW1344DC	59	93	98	94	96	14.60
4	Martin BSCW1344DC	52	97	99	95	99	18.26



#12 Martin BSCW1344D w/ fCrumbler

Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May	STDEV Pop
1	Martin BSCW1344D with fCrumbler wheel	80	95	94	94	98	6.27
2	Martin BSCW1344D with fCrumbler wheel	71	91	100	93	94	9.87
3	Martin BSCW1344D with fCrumbler wheel	95	99	97	100	101	2.15
4	Martin BSCW1344D with fCrumbler wheel	90	85	99	99	98	5.71



Treatment	Rep	Closing Wheel System	22-May	23-May	24-May	25-May	27-May
1	1	John Deere Rubber Wheel	82	98	98	103	100
1	2	John Deere Rubber Wheel	100	101	98	101	103
1	3	John Deere Rubber Wheel	87	100	99	98	101
1	4	John Deere Rubber Wheel	94	105	96	105	106
2	1	John Deere Cast Iron Wheel	87	100	102	101	102
2	2	John Deere Cast Iron Wheel	92	94	94	94	97
2	3	John Deere Cast Iron Wheel	84	96	99	100	100
2	4	John Deere Cast Iron Wheel	81	94	99	100	100
3	1	Schlagel Posi-Wheel	86	101	100	99	100
3	2	Schlagel Posi-Wheel	83	94	96	99	99
3	3	Schlagel Posi-Wheel	78	98	104	103	102
3	4	Schlagel Posi-Wheel	80	99	98	100	100
4	1	Dawn Curvetine	80	93	95	95	94
4	2	Dawn Curvetine	78	93	96	97	97
4	3	Dawn Curvetine	91	90	99	102	102
4	4	Dawn Curvetine	95	101	103	100	101
5	1	Martin BSCW1344D	94	101	100	101	103
5	2	Martin BSCW1344D	89	102	105	105	105
5	3	Martin BSCW1344D	81	93	92	97	96
5	4	Martin BSCW1344D	81	95	99	99	101
6	1	Martin BSCW1344DC with Rubber Wheel	105	109	109	110	108
6	2	Martin BSCW1344DC with Rubber Wheel	95	97	95	99	100
6	3	Martin BSCW1344DC with Rubber Wheel	77	90	96	95	96
6	4	Martin BSCW1344DC with Rubber Wheel	78	96	101	101	100
7	1	Martin BSCW1444C with fCrumbler wheel	86	94	91	95	95
7	2	Martin BSCW1444C with fCrumbler wheel	89	96	102	96	96
7	3	Martin BSCW1444C with fCrumbler wheel	97	103	102	102	103
7	4	Martin BSCW1444C with fCrumbler wheel	94	99	100	100	100
8	1	Martin fCrusher Dual	97	100	101	100	102
8	2	Martin fCrusher Dual	89	93	96	105	99
8	3	Martin fCrusher Dual	88	96	95	97	98
8	4	Martin fCrusher Dual	87	96	98	98	97
9	1	Yetter Twister	96	95	96	99	98
9	2	Yetter Twister	100	99	98	99	99
9	3	Yetter Twister	82	92	97	99	99
9	4	Yetter Twister	85	93	96	98	98
10	1	Martin BSCW1444C	95	99	100	101	101
10	2	Martin BSCW1444C	91	99	100	100	99
10	3	Martin BSCW1444C	88	101	101	100	102
10	4	Martin BSCW1444C	68	89	94	94	96
11	1	Martin BSCW1344DC	91	106	108	106	107
11	2	Martin BSCW1344DC	87	97	96	99	99
11	3	Martin BSCW1344DC	59	93	98	94	96
11	4	Martin BSCW1344DC	52	97	99	95	99
12	1	Martin BSCW1344D with fCrumbler wheel	80	95	94	94	98
12	2	Martin BSCW1344D with fCrumbler wheel	71	91	100	93	94
12	3	Martin BSCW1344D with fCrumbler wheel	95	99	97	100	101
12	4	Martin BSCW1344D with fCrumbler wheel	90	85	99	99	98