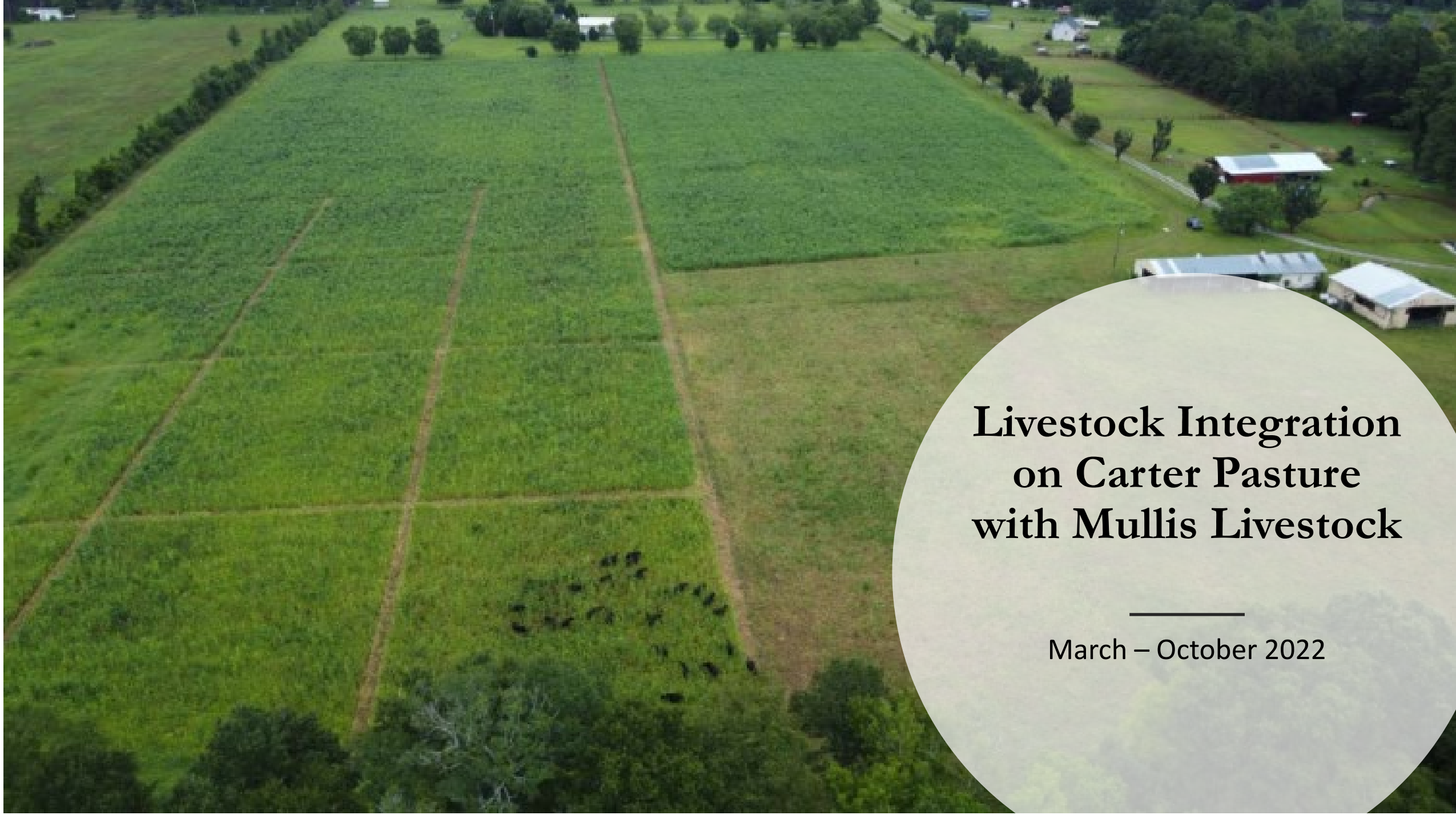


Livestock Integration on Carter Pasture with Mullis Livestock

March – October 2022

What we'll Discuss

- Site Description & Field History
- Grazing Events/Occupations
- Infrastructure, Summer Challenges/Adaptations
- Forage Inventory March-October
- Forage Stands
- Residue/Soil Armor
- Design and Design Changes
- Money, startup and recurring costs – Landowner
- Money, scenarios and benefits to livestock owner
- The grazing lease

Site Description

Field History

Approximate Date Range	Plant Cover	Grazed?
Pre-2018	Degraded horse pasture	?
May 18-October 2018	Soybeans	N
November 18 -April 2019	Cool Season Cover Crop	N
April – September 2019	Corn	N
October 19-May 2020	Cool Season Cover Crop	N
May 20-October 2020	Soybeans	N
October 20-May 2021	Cereal Rye (not harvested due to frost spoilage)	N
May-October 2021	Warm Season Cover Crop	N
October 21-May 22	Cool Season Forage Crop	Y
May-October 2022	Warm Season Forage Crop	Y

Livestock Occupations

Occupation Dates	No. of Animals	Total Days of Occupation	Animal-Days	Weight In (lbs)	Weight Out (lbs)	Weight gain (lbs)	Est. Gain Per Day/Animal
3/24 - 5/8/2022	16	57	912	13,786	15,480	1,694	1.85
7/6 – 11/3/2022	35	90	2,348	24,480	25,520	1,040	0.44

Occupation Dates	No. of Animals	Total Days of Occupation	Animal-Unit Days	Animal Unit Months	Animal Unit Months per Acre
3/24 -5/8/2022	16	57	834	27.8	1.36
7/6 – 11/3/2022	35	90	2,202	73.4	3.0

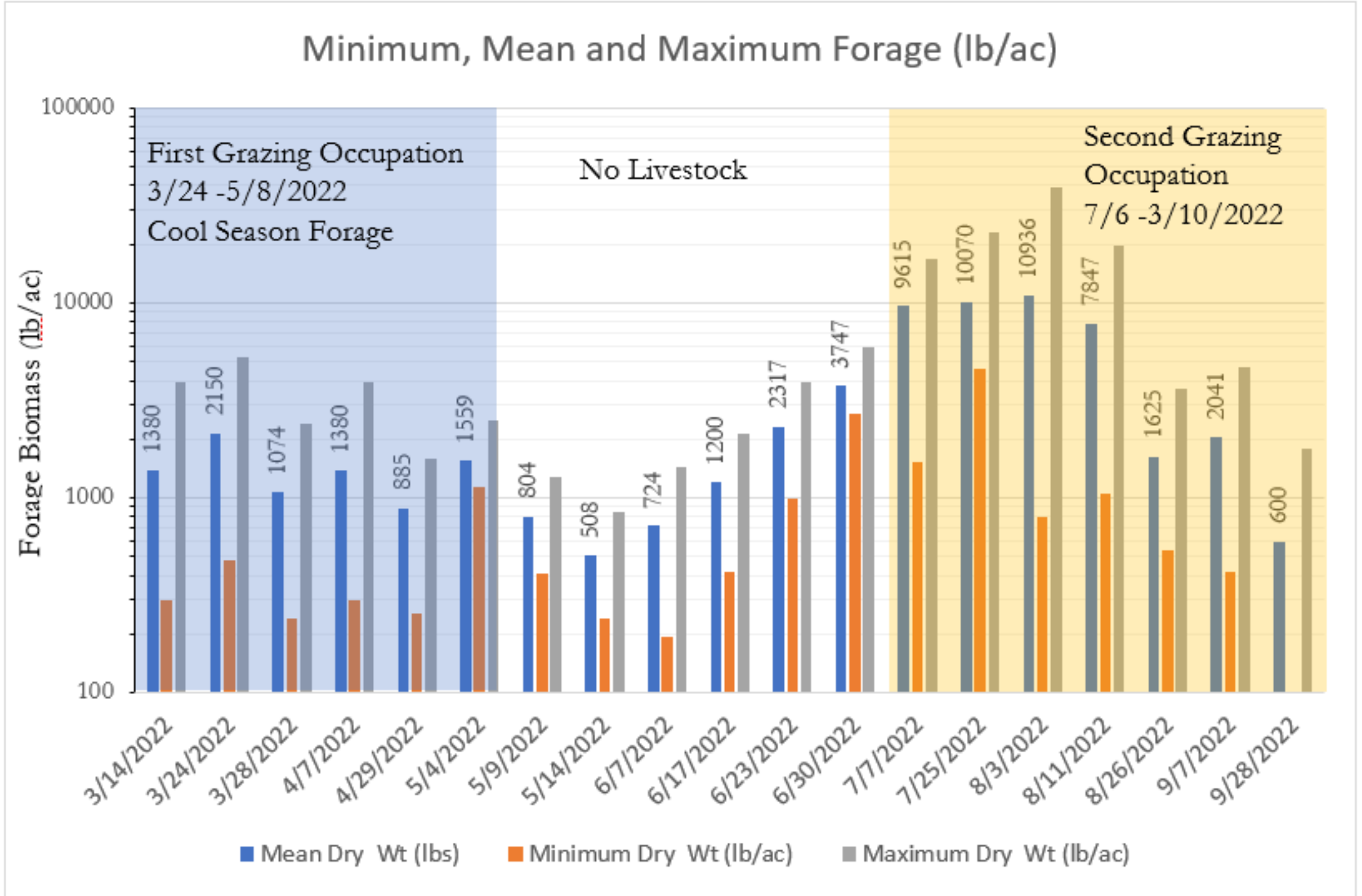




Infrastructure

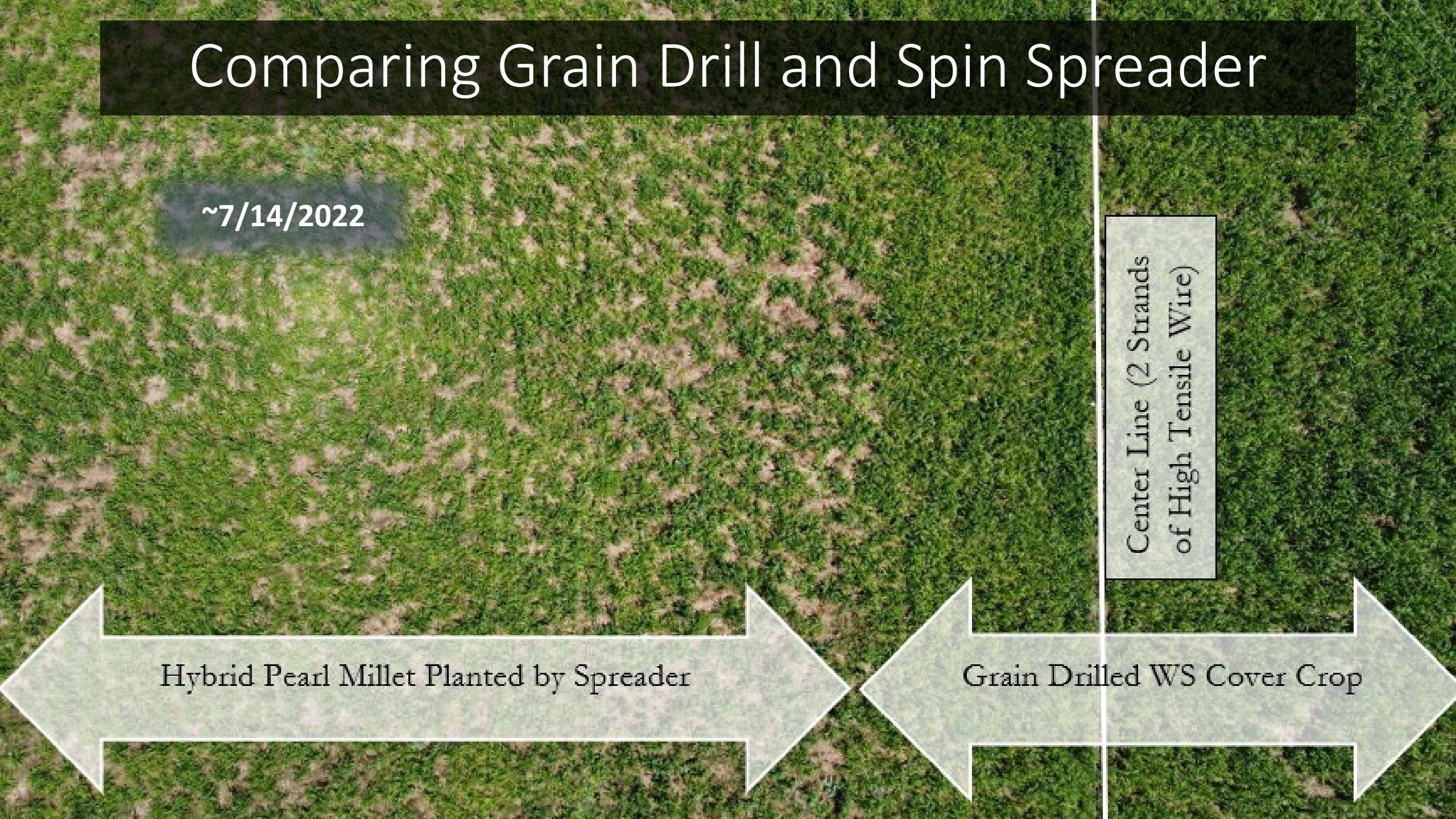
Summer Challenges

Adapting T-Posts


Minimum, Mean and Maximum Forage (lb/ac)
Forage Biomass (lb/ac)
100000
10000
1000
100
First Grazing Occupation
3/24 -5/8/2022
Cool Season Forage
No Livestock
Second Grazing
Occupation
7/6 -3/10/2022
1380
2150
1074
1380
885
1559
804
508
724
1200
2317
3747
9615
10070
10936
7847
1625
2041
600
3/14/2022
3/24/2022
3/28/2022
4/7/2022
4/29/2022
5/4/2022
5/9/2022
5/14/2022
6/7/2022
6/17/2022
6/23/2022
6/30/2022
7/7/2022
7/25/2022
8/3/2022
8/11/2022
8/26/2022
9/7/2022
9/28/2022
Mean Dry Wt (lbs)
Minimum Dry Wt (lb/ac)
Maximum Dry Wt (lb/ac)

Stand Issues Spring

Comparing Grain Drill and Spin Spreader



Forage Progression 4/21 to 9/7

	Dry Residue Weight (lb/ac)
Forage Zone 1	7546
Forage Zone 2	4214
Forage Zone 3	6468
Forage Zone 4	7546
Forage Zone 5	7546
Forage Zone 6	7056
Forage Zone 7	4704
Forage Zone 8	5586

Residue or Soil Armor

Design Changes


8/3/2022

Startup Costs

Timing	Qty	Unit	Description	Unit price	Sum
ll 2020	27	tons	Chicken Litter	$25	$675
2020	27	tons	Spreader for Litter	$12	$324
2021	20	acres	Grain Drill Rye	$30	$600
2021	20	acres	Rye Seed	$14	$280
mmer 2021	20	acres	Plant Summer Cover	$30	$600
Summer 2021	20	acres	Summer Cover Seed	$25	$500
Fall 2021	20	acres	Roll Summer Cover	$12	$240
Fall 2021	20	acres	Plant Cool Season Forage	$30	$600
Fall 2021	20	acres	Cool Season Forage Seed	$20	$400
Spring 2022	2000	ft	Perimeter fence	$5	$9,000
Spring 2022	1	Each	High tensile wire interior	$650	$650
Spring 2022	1	each	Electric fence mobile supplies	$1,274	$1,274
Spring 2022	1330	ft	Black water line	$0	$652
Spring 2022	1	each	Trenching for permanent water line	$335	$335
Spring 2022	200	ft	Flexible Hose and freight	$2	$364
Spring 2022	1	Misc.	Miscellaneous – e.g., fittings, experimental auto gates, ear tags	$324	$324
			Total Startup Costs		$ 16,818

Recurring Costs

Cool Season

Qty	Unit	Description	Unit price	Sum
20	acres	Rent	$25	$500
5	month	Electricity	$55	$275
20	acres	Oct '21 CS Cover Seed	$30	$600
20	acres	Oct '21 Drill CS Cover	$30	$600
1	Season (Cool)	Misc Expenses (labels, sweet feed)	$88	$88
3	days	Hired labor	$100	$300
10	bags	CCSseed (sown in front of cattle) Mar-May	$50	$500
		Fertilizer		$-
		Pesticide		$-
	Total Expenses			$2,863
	Income			
1694	lbs	Weight gain share 1.85 lbs per stocker per day	$0.675	$1,143
912	Animal Days	Rent 1$/head/day ($16 * 57 days)	$1	$912
	Total Income			$2,055
	Gross margin			-$808

Warm Season

Qty	Unit	Description	Unit price	Sum
20	acres	Rent	$25	$500
6	month	Electricity - May - Oct	$55	$330
6	bags	Millet - 8 acres West Paddock	$67	$402
3	Hr	May '22 - JD 1050 - spread Millet 8 acre	$50	$150
1	Season (warm)	Misc Expenses (well repair, sweet feed)	$60	$60
12	acres	May '22- Drill WS cover	$30	$360
12	acres	WS Cover Seed	$50	$600
3	Hrs	JD 1050 + 5' BHg, cutting lanes into forage	$50	$150
10	Hrs	JD 3080 + 10' BHg -stalk cutting pre-planting CS Cover	$75	$750
0		Ferilizer		$0
0		Pesticide		$0
	Total Expenses			$3,302
1040	lbs	Weight gain share 1	$0.725	$754
2616	Animal Days	Rent 1$/head/day for 2616 animal days	$1	$2,616
	Total Income			$3,370
	Gross margin			$68

Benefits to Livestock Owner?

Scenario Basis: ~ 487 lb/day hay for 57 days plus ~ 666 lb/day hay for 89 days	Hay Purchase Savings ($)	Market Value of Weight gain ($) to Livestock Owner	Hay Purchase Savings and Weight Gain ($)	Less $3,528 in Rental to Landowner ($)
No forage available – only hay fed	$7,233	$1,897	$9,130	$5,602
Forage base can supply 25% of feed Requirements	$5,424	$1,897	$7,312	$3,784
Forage base can supply 50% of feed Requirements	$3,616	$1,897	$ 5,513	$1,985
Forage base can supply 75% of feed Requirements	$1,808	$1,897	$3,705	$177
Forage base can supply 100% of feed Requirements	$0	$1,897	$1,897	-1,631

Benefits to Livestock Owner

Less tangible:

- Improved soil/pasture health from rest
- Improved animal health (avoiding summer slump)
- Improved animal health of base herd that stayed in Blythewood
- Less labor to move livestock (over and above hay feeding)

What Should we do Differently?

Occupation Dates	No. of Animals	Total Days of Occupation	Animal-Days	Weight In (lbs)	Weight Out (lbs)	Weight gain (lbs)	Est. Gain Per Day/Animal
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The Lease Agreement

Probably less than 10% of all lease agreements would actually reflect any kind of a mutual goal…How to make both sides of that equation more profitable, sustainable.

It's about partnership and then it's about avoiding chaos.

Pete Bauman "Structuring Grazing Leases"
https://extension.sdstate.edu/sites/default/files/2020-06/P-00174.pdf

Next Steps


Questions?