

GRAZING TRIALS

CHANGING THE GAME

Since 2019, MasterHand Milling has partnered with the Oklahoma State University Cooperative Extension Service to conduct annual summer grass cattle trials. Our goal is to provide repeatable, dependable data customers can rely on when making decisions for their operation.



REVOLUTIONARY DATA

Each year, Associate Professor Dr. Paul Beck and his team of graduate students design trials to test the impacts of supplementing extruded distillers grain cubes in a variety of grazing scenarios. Throughout this program MHM has provided the feed for each research site.

After four years of grazing trials, the data has proven supplementing DDG cubes can predictably increase average daily gains by 0.5-1 pound through the summer season. Data also shows supplementation allows cattle to maintain rate of gain in the late summer when forage quality drops. Further studies have dialed in on 2-4 pounds per head per day split into one or two feedings per week as the optimum feeding rates for supplemental efficiency and return on investment.

The team also collected feedlot and carcass information on the grazing trial cattle. That data indicates feeding DDG cubes to cattle on grass not only boosts gains on pasture, but also optimizes feedlot efficiency and carcass performance. See the Shifting the Focus supplement for complete feedlot and carcass data.



RESEARCH LOCATIONS

HASKELL, OKLAHOMA

DASNR Eastern Research Station

BESSIE, OKLAHOMA

Marvin Klemme Range Research Station

FORT SUPPLY, OKLAHOMA

USDA Southern Plains Range
Experimental Station

LENAPAH, OKLAHOMA

Justin McKee Ranch

BATESVILLE, ARKANSAS

University of Arkansas Agricultural Experiment Station



TRIAL #1 FORT SUPPLY, OKLAHOMA

The 2019 and 2020 Fort Supply studies investigated cattle performance when supplementing various amounts of distillers cubes and increasing stocking rates per acre.

2019	GROUP 1 - NO SUPPLEMENT, NORMAL STOCKING RATE						
	GROUP 2 - FED LATE SUMMER ONLY, NORMAL STOCKING RATE						
	GROUP 3 - FED ALL SUMMER, HIGH STOCKING RATE						
	GRAZING DATA	IN WEIGHT	MID WEIGHT	END WEIGHT	ADG EARLY	ADG LATE	ADG TOTAL
	GROUP 1	500	589	667	1.45	1.18	1.27
	GROUP 2	494	583	710	1.46	1.91	1.64
	GROUP 3	494	621	771	2.08	2.28	2.12
2020	ALL GROUPS SAME AS 2019 TRIAL						
	GRAZING DATA	IN WEIGHT	MID WEIGHT	END WEIGHT	ADG EARLY	ADG LATE	ADG TOTAL
	GROUP 1	647	774	914	1.85	2.13	1.99
	GROUP 2	646	772	969	1.84	2.99	2.40
	GROUP 3	649	825	992	2.55	2.52	2.54

TRIAL #2 FORT SUPPLY, OKLAHOMA

The 2021 Fort Supply trials were similar in design to the Bessie trials, testing the change in performance with varying rates of supplementation. Treatments ranged from no supplement to 6 lbs of DDG cubes per hd/day.

2021	GROUP 1 - NO SUPPLEMENT CONTROL			GROUP 3 - SUPPLEMENTED 4 LBS/HD/DAY		
	GROUP 2 - SUPPLEMENTED 2 LBS/HD/DAY			GROUP 4 - SUPPLEMENTED 6 LBS/HD/DAY		
	GRAZING DATA	IN WEIGHT	END WEIGHT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER
	GROUP 1	658	857	131	1.48	1.54
	GROUP 2	654	926	131	2.15	2.11
	GROUP 3	654	933	131	2.28	2.17
	GROUP 4	651	952	131	2.32	2.35
2022	ALL GROUPS SAME AS 2021 TRIALS					
	GRAZING DATA	IN WEIGHT	END WEIGHT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER
	GROUP 1	654	904	123	1.99	2.08
	GROUP 2	647	965	123	2.94	2.14
	GROUP 3	650	998	123	3.29	2.25
	GROUP 4	646	1023	123	3.56	2.44



TRIAL #3 BESSIE, OKLAHOMA

The 2019 and 2020 trials at Bessie were designed to test the difference in cattle performance when supplementing distillers cubes all summer versus late summer only. Group 1 was fed 2.5 lbs/day at normal stocking rate, and Group 2 was fed 0.75% of body-weight adjusted through the season with a 33% increase in stocking rate.

2019	GROUP 1 - SUPPLEMENTED IN LATE SUMMER ONLY - NORMAL STOCKING RATE						
	GROUP 2 - SUPPLEMENTED FULL TIME ON GRASS - INCREASED STOCKING RATE						
GRAZING DATA	IN WT	END WT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER	ADG TOTAL	BW GAIN/ACRE
GROUP 1	533	770	130	1.76	2.58	2.06	39.6
GROUP 2	526	849	130	2.72	2.30	2.50	80.8

2020	ALL GROUPS SAME AS 2019 TRIALS						
GRAZING DATA	IN WT	END WT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER	ADG TOTAL	BW GAIN/ACRE
GROUP 1	563	817	135	1.67	2.19	1.92	42.5
GROUP 2	564	859	135	2.33	2.19	2.34	74

TRIAL #4 BESSIE, OKLAHOMA

The 2021-2022 grazing trial at Bessie was a new design testing supplementation rate through the summer. Three treatment groups included an unsupplemented control, a low supplement rate at 2 lbs. per head per day and a high supplement rate at 4 lbs. per head per day.

2021	GROUP 1 - NO SUPPLEMENT CONTROL			GROUP 3 - SUPPLEMENTED 4LBS/HD/DAY		
	GROUP 2 - SUPPLEMENTED 2 LBS/HD/DAY					
GRAZING DATA	IN WEIGHT	END WEIGHT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER	ADG TOTAL
GROUP 1	545	716	145	0.93	1.40	1.20
GROUP 2	544	815	145	1.88	1.86	1.87
GROUP 3	547	854	145	2.2	2.04	2.12

2022	ALL GROUPS SAME AS 2021 TRIALS					
GRAZING DATA	IN WEIGHT	END WEIGHT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER	ADG TOTAL
GROUP 1	584	776	136	1.79	1.06	1.41
GROUP 2	580	847	136	2.23	1.65	1.92
GROUP 3	584	882	136	2.23	2.21	2.23

TRIAL PROVEN, CUSTOMER APPROVED

I've always liked using distillers grain as a supplement, but having it in cube form gives you a lot more flexibility in where you feed it. I think there's a lot of power in feeding these distillers cubes in the summer. Increasing stocking rate, increasing gain, and nearly doubling gain per acre certainly has economic power.

DR. PAUL BECK
OKLAHOMA STATE UNIVERSITY

Cattle fed MasterHand Milling range cubes started faster, gained better, had an improved dry matter conversion, and had a superior carcass to control pens that were not fed the range cubes. It looks like this is truly a value added product you can use to improve the performance of your cattle being retained in the feedyard.

TOM FANNING
BUFFALO FEEDERS



TRIAL #5 HASKELL, OKLAHOMA

2021 was the second year of the Haskell research trial. This trial evaluated the impact of fertilization of pasture and supplementation with DDG cubes on cattle performance. Group 2 was fed 2.75 lb/day and Group 3 was fed 0.75 of bodyweight, an average of 5.9 lbs.

2020	GROUP 1 - NO SUPPLEMENT CONTROL					
	GROUP 2 - FERTILIZED PASTURE WITH LOW SUPPLEMENT					
	GROUP 3 - UNFERTILIZED PASTURE WITH HIGH SUPPLEMENT					
	GRAZING DATA	IN WEIGHT	END WEIGHT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER
GROUP 1	525	821	150	2.50	1.21	1.90
GROUP 2	525	899	150	3.03	1.65	2.41
GROUP 3	521	907	150	2.92	1.96	2.48

2021	GROUP 1 - NO SUPPLEMENT CONTROL					
	GROUP 2 - FERTILIZED PASTURE WITH LOW SUPPLEMENT					
	GROUP 3 - UNFERTILIZED PASTURE WITH HIGH SUPPLEMENT					
	GRAZING DATA	IN WEIGHT	END WEIGHT	DAYS ON GRASS	ADG EARLY SUMMER	ADG LATE SUMMER
GROUP 1	574	918	182	2.42	1.29	1.89
GROUP 2	545	989	182	3.14	1.65	2.44
GROUP 3	543	1028	182	3.26	2.00	2.66

TRIAL #6 LENAPAH, OKLAHOMA

This trial was an on-farm demonstration conducted in 2020 on native tallgrass pasture and tested the impact of supplementation rates and timing. Mixed crossbred calves were on grass from May to September.

2020	GROUP 1 - FED LOW RATE IN LATE SUMMER ONLY			GROUP 3 - FED HIGH RATE IN EARLY SUMMER ONLY		
	GROUP 2 - FED HIGH RATE IN LATE SUMMER ONLY					
	GRAZING DATA	IN WEIGHT	MID WEIGHT	END WEIGHT	ADG EARLY	ADG LATE
GROUP 1	563	655	768	1.58	1.46	1.52
GROUP 2	563	665	791	1.77	1.94	1.86
GROUP 3	563	674	711	1.92	0.52	1.22

TRIAL #7 BATESVILLE, ARKANSAS

Dr. Paul Beck conducted this trial at the University of Arkansas Livestock and Forestry Research Station. The trial consisted of 100 calves on 20 bermudagrass pastures and compared performance when feeding DDG cubes versus protein tubs.

2020	GROUP 1 - NO SUPPLEMENT			GROUP 4 - FED PROTEIN TUBS ALL SUMMER		
	GROUP 2 - FED DDG CUBES ALL SUMMER			GROUP 5 - FED PROTEIN TUBS LATE SUMMER ONLY		
	GROUP 3 - FED DDG CUBES LATE SUMMER ONLY					
	GRAZING DATA	IN WEIGHT	MID WEIGHT	END WEIGHT	ADG EARLY	ADG LATE
GROUP 1	560	645	702	1.88	1.26	1.57
GROUP 2	557	654	753	2.14	2.20	2.17
GROUP 3	563	651	747	1.95	2.15	2.04
GROUP 4	562	657	706	1.89	1.32	1.61
GROUP 5	557	650	717	2.06	1.48	1.77