

## SPRING GRAZING TRIAL

The pastures in the spring grazing trial were grazed for the sixth season this year. Yearling steers were on the pastures from May 2 to July 14, a period of 73 days. This year the crested-alfalfa pastures were stocked with eight yearling steers each, and one crested wheatgrass pasture (#3) was stocked with 6 steers, while the other crested wheatgrass pasture (#1) was stocked with eight steers. Pasture 1 was fertilized with 50 pounds of nitrogen per acre on April 13, 1960.

Table 18 summarizes pasture yields and forage utilization on the pastures for the 1960 season. It is apparent that the fertilized pasture produced much more forage than the unfertilized pasture, and substantially more than the production on the crested-alfalfa pastures. As the data of Table 17 shows the heavier stocking on Pasture 1 did not result in as heavy utilization as did the normal stocking on the unfertilized Pasture 3. Production on Pasture 1 was 1476 pounds per acre, on Pasture 3, 981 pounds per acre, and for the two crested-alfalfa pastures, 1200 pounds per acre. It is apparent that the influence of the alfalfa is still stimulating total forage production on the mixture pastures. Utilization on Pasture 1 was about 75 per cent, on Pasture 3, about 83 per cent, and the average utilization for the crested-alfalfa pastures was 88 per cent. In the case of these latter pastures, utilization was noticeably less heavy on Pasture 4 than on Pasture 2.

Table 18 summarizes the data on yield and forage consumption on the pastures for the 6-year period of the study. The forage data from Pasture 1 for the 1960 season are not included in the summer, so the data of the table represent the averages for straight crested wheatgrass pastures and crested-alfalfa pasture. On the basis of the 6-year averages, the crested-alfalfa pastures have produced 28.1 per cent more forage than the straight crested-wheatgrass pasture, and the yearling steers have consumed 29.5 per cent more forage on these pastures than on the straight crested wheatgrass pastures.

Table 17. Forage produced on pastures and forage utilized by yearling steers in the spring grazing trial in the

1960 season.

Pasture No.	Pasture Type	Forage produced lbs./acre	Forage utilized lbs./acre	Forage left on ground lbs./acre
1	Crested Wheatgrass*	1476	1110	366
3	Crested Wheatgrass	981	821	160
	Average - 1 & 3	1228	965	263
2	Crested-Alfalfa	1158	1103	55
4	Crested-Alfalfa	1242	1007	235
	Average - 2 & 4	1200	1055	145

\*50 pounds of nitrogen per acre applied to Pasture 1 on April 12, 1960.

Table 18. Six-year summary of forage produced and utilized on spring grazing trial pastures - 1955-1960

Pasture Nos.	Pasture Type	Year	Forage produced lbs./acre	Forage utilized lbs./acre	Forage left on-ground lbs./acre
1 & 3	Crested Wheatgrass	1955	962	817	145
1 & 3	Crested Wheatgrass	1956	743	556	187
1 & 3	Crested Wheatgrass	1957	1046	827	219

1 & 3	Crested Wheatgrass	1958	902	756	146
1 & 3	Crested Wheatgrass	1959	1046	713	333
3*	Crested Wheatgrass	1960	981	821	160
	6-Year Average		947	748	199
2 & 4	Crested-Alfalfa	1955	1429	969	460
2 & 4	Crested-Alfalfa	1956	1020	756	264
2 & 4	Crested-Alfalfa	1957	1415	1231	184
2 & 4	Crested-Alfalfa	1958	1102	930	172
2 & 4	Crested-Alfalfa	1959	1110	870	240
2 & 4	Crested-Alfalfa	1960	1200	1055	145
	6-Year Average		1213	969	244
*Pasture 1 not included because of fertilizer treatment.					

Table 19 summarizes the animal data obtained during the 1960 season. On the fertilized crested wheatgrass the yearling steers gained an average of 165 pounds per head during the 73-day grazing period. On straight crested-wheatgrass, they gained 135 pounds per head, and on crested-alfalfa, 137 pounds per head. The average daily gains per head were 2.26 pounds on fertilized crested, 1.85 pounds on straight crested, and 1.88 pounds on crested-alfalfa.

The average gains per acre this year were 165.0 pounds on fertilized crested, 101.2 pounds on straight crestedwheatgrass, and 137.0 pounds on crested-alfalfa. Table 20 summarizes the animal data obtained on the pastures during the 6-year period of the study. Data from fertilized Pasture 1 are not included in this summary. The

average results for the 6-year period clearly show the superiority of the crested-alfalfa pastures over the straight crested wheatgrass pastures in the production of pounds of beef per acre. Over the 6-year period of the trial, the crested-alfalfa pastures have produced 36.8 per cent more beef than the crested wheatgrass pastures.

Table 19. Performance of yearling steers on crested wheatgrass and crested wheatgrass-alfalfa pastures during spring grazing period from May 2 to July 4, 1960.

Pasture No.	Pasture Type	No. of Steers	Acres per Pasture	Days on Pasture	Avg. initial wt./steer	Avg. final wt./steer	Avg. seasonal gain/head	Avg. daily gain/head	Gain per acre
1	Crested Whtgr.*	8	8	73	521	686	165	2.26	165.0
3	Crested Whtgr.	6	8	73	523	658	135	1.85	101.2
2	Crested-Alfalfa	8	8	73	521	658	137	1.88	137.0
4	Crested-Alfalfa	8	8	73	521	659	138	1.89	138.0

\*Pasture #1 fertilizer with 50 pounds nitrogen per acre

Table 20. Six-year summary of weights and gains of yearling steers on crested wheatgrass and crested wheatgrass-alfalfa spring grazing trial pastures - 1955-1960.

Pasture Nos.	Pasture Type	Avg. initial weight-per steer-lbs.	Avg. final weight-per steer-lbs.	Avg. seasonal gain per	Avg. daily gain per head-lbs.	Gain per acre-lbs.	Year

				head-lbs.			
1 & 3	Crested Wheatgrass	494	568	74	1.44	64.3	1955
1 & 3	Crested Wheatgrass	520	601	81	1.79	60.3	1956
1 & 3	Crested Wheatgrass	478	622	144	2.40	107.7	1957
1 & 3	Crested Wheatgrass	555	680	127	2.02	95.3	1958
1 & 3	Crested Wheatgrass	528	666	138	2.64	103.2	1959
3*	Crested Wheatgrass	523	658	135	1.85	101.2	1960
	6-Year Average	516	632	116	2.02	88.7	
2 & 4	Crested-Alfalfa	494	600	106	2.06	92.2	1955
2 & 4	Crested-Alfalfa	520	616	96	2.14	96.3	1956
2 & 4	Crested-Alfalfa	498	639	141	2.35	158.1	1957
2 & 4	Crested-Alfalfa	550	682	132	2.10	132.0	1958
2 & 4	Crested-Alfalfa	523	636	113	2.17	112.0	1959
2 & 4	Crested-Alfalfa	521	658	137	1.88	137.5	1960
	6-Year Average	518	639	121	2.12	121.4	
*Pasture 1 not included because of fertilizer treatment.							

Table 21 contrasts forage production and beef gains per acre on straight crested wheatgrass, on crested-alfalfa, and on crested wheatgrass fertilized with 50 pounds of nitrogen per acre for the last two years. The data shows that

while the extra forage produced on fertilized crested wheatgrass would not pay for the cost of the fertilizer (forage at 1 cent per pound; fertilizer at 10 cents per pound), the extra beef produced on fertilized pasture figured at 20 cents per pound would return almost twice the cost of the fertilizer.

Table 21. Forage production and gains per acre on spring grazing trial pastures of crested wheat-grass, crested wheatgrass and alfalfa, and crested wheatgrass fertilized with 50 pounds nitrogen per acre - 1959-1960.

Pasture	Forage Production			Gains per acre		
	1959	1960	2-yr. Avg.	1959	1960	2-yr. Avg.
Crested Wheatgrass	940	981	960	106.5	101.2	103.6
Crested & Alfalfa	1110	1200	1155	112.5	137.0	124.7
Crested + 50# N	1152	1476	1314	133.0*	165.0	149.0

\*Calculated gain based on pasture being grazed by 8 animals rather than the 6 actually used.

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