

NEW SPRING GRAZING TRIAL

The pastures in the new spring grazing trial were grazed for the second consecutive year in the 1965 season. There are eight 6-acre pastures in this trial. Two of these pastures are straight crested wheatgrass, two are crested wheatgrass-alfalfa mixtures, two are fertilized with 25 pounds nitrogen per acre, and two are fertilized with 50 pounds N per acre. Fertilizer applications are made in the spring. In the 1965 season the pastures were grazed by yearling steers from May 8 to July 16, a period of 70 days. Forage production, forage utilization, and animal weights and gains are given in tables 15, 16, and 17.

The excellent moisture conditions that prevailed in the 1965 season resulted in unusually good production on all pastures. Table 15 shows the actual production as measured by clipping from movable steel cages. The average yield on the straight crested wheatgrass pastures was 2432 pounds per acre, on the crested-alfalfa pastures 4581 pounds per acre, on the 25-pounds-N pastures 2925 pounds per acre, and on the 50-pounds-N pastures 4342 pounds per acre. All forage weights are oven-dry. The crested-alfalfa pastures actually outyielded the 50-pounds-N pastures by a slight margin. As would be expected, the crested-alfalfa and the two fertilized pastures substantially outyielded the straight crested wheatgrass pastures.

The heavy production on the pastures could not be properly utilized by the grazing steers, and the crested wheatgrass became mature and stemmy long before it would have if the necessary heavy utilization had been possible. The relatively poor utilization of the grass is shown by the data in table 16, and, of course, is reflected in the animal performance data given in table 17. The average daily gains on the pastures were very low after the middle of June, even though well over 1000 pounds of forage per acre was available on each pasture. The daily gains on the grass-alfalfa pastures held up well throughout the grazing period, probably because the alfalfa in the pastures did not mature as rapidly as the crested wheatgrass, and there was plenty of alfalfa in the mixtures to meet all forage needs of the grazing animals.

For the period of the trial utilization on the straight crested wheatgrass pastures averaged 52.5 percent, on the crested-alfalfa pastures 38.6 percent, on the 25-pound-N pastures 58.8 percent, and on the 50-pound-N pastures 60.5 percent. On most pastures more plant material remained at the termination of the trial than is produced in many years by crested wheatgrass stands in this area. The results of the trial serve to emphasize the difficulty of stocking crested wheatgrass pastures to obtain proper utilization of the heavy early growth that this grass makes. It does appear, however, as though the stocking rate should be further increased on all pastures.

The daily gains per head and the average gains per acre are fairly good, as shown in table 17, despite the relatively poor overall utilization of the forage crop produced on the trials. In previous crested wheatgrass pasture trials daily gains per head have averaged over 2 pounds, as contrasted to 1.73 on straight crested pastures, 2.05 on crested-alfalfa, 1.70 on 25-pound-N and 1.89 on 50-pound-N crested pastures. The results obtained in the 1965 season are thus generally not as good as the average of a previous long-time trial but substantially better than the results obtained in the 1964 season, as shown in table 18.

The results obtained in the 1964 and 1965 seasons clearly do not represent the grazing potential of any of the pastures. Unusual circumstances in each of the two seasons that this trial has been underway have prevented achieving maximum animal performance on the pastures.

Table 15. Forage Produced on New Spring Grazing Trial Pastures - 1965 Season.					
Pasture No.	Pasture Treatment	Forage Produced - Lbs./Acre*			
		1st Period 5/8 - 6/6	2nd Period 6/7 - 6/28	3rd Period 6/29 - 7/16	Total For Season
3	Check	1094	1104	497	2695
5	Check	1256	640	273	2169
Average		1175	872	385	2432
2	With Alfalfa	1910	2372	514	4796

7	With Alfalfa	2104	1952	311	4367
Average		2007	2162	412	4581
1	25 Pounds N	1647	1075	41	2763
6	25 Pounds N	1674	1251	162	3087
Average		1660	1163	102	2925
4	50 Pounds N	2257	1719	205	4181
8	50 Pounds N	2060	1690	753	4503
Average		2158	1705	479	4342
*Oven-Dry Weight.					

Table 16. Forage Utilized on New Spring Grazing Trial Pastures - 1965 Season.					
Pasture No.	Pasture Treatment	Forage Utilized - Lbs. / Acre ¹			
		1st Period 5/8 - 6/6	2nd Period 6/7 - 6/28	3rd Period 6/29 - 7/16	Total For Season
3	Check	302	478	630	1410
5	Check	480	316	350	1146
Average		391	397	490	1278
2	With Alfalfa	861	960	223	2044
7	With Alfalfa	701	795	--- ²	1496

Average		781	877	112	1770
1	25 Pounds N	699	722	163	1584
6	25 Pounds N	782	570	502	1854
Average		740	646	333	1719
4	50 Pounds N	830	956	280	2066
8	50 Pounds N	916	967	1304	3187
Average		873	961	792	2626

¹Oven-Dry Weight

²Cage clippings indicate no utilization.

Table 17. Performance of Yearling Steers on New Spring Grazing Pastures During Period of May 8 - July 16, 1965. (Weights and Gains in Pounds)

Pasture No.	Pasture Treatments	No. Of Steers	Acres Per Pasture	Days On Pasture	Average Initial Wt. Per Steer	Average Final Wt. Per Steer	Average Seasonal Gain Per Head	Average Daily Gain Per Head	Gain Per Acre
3	Check	5	6	70	483.0	592.0	109.6	1.56	90.8
5	Check	5	6	70	494.0	627.0	133.0	1.90	110.8
Average		5	6	70	488.5	609.5	121.0	1.73	100.8
2	Crested-Alfalfa	6	6	70	493.3	625.0	131.7	1.88	131.7

7	Crested-Alfalfa	6	6	70	494.2	649.2	155.0	2.21	155.0
Average		6	6	70	493.7	637.1	143.4	2.05	143.4
1	25 Pounds N	8	6	70	493.8	616.3	122.5	1.75	163.3
6	25 Pounds N	8	6	70	493.8	608.8	115.0	1.64	153.3
Average		8	6	70	493.8	612.5	118.7	1.70	158.3
4	50 Pounds N	9	6	70	493.9	633.6	139.7	2.00	209.6
8	50 Pounds N	9	6	70	493.3	617.8	124.5	1.78	186.8
Average		9	6	70	493.6	625.7	132.1	1.89	198.2

Table 18. Two-Year Summary of Forage Production, Forage Utilization, Seasonal Gains Per Head, Daily Gains Per Head, and Gains Per Acre on Spring Grazing Trial Pastures - 1964 - 1965.

Pastures	Year	Forage Production Lbs./Acre	% Forage Utilization	Average Seasonal Gain- Lbs. Per Hd.	Average Daily Gain- Lbs. Per Hd.	Gain Per Acre-Lbs.
Crested Wheatgrass	1964	875 ¹	54.5 ¹	75.0	1.52	62.50
	1965	2432	52.5	121.0	1.73	100.8

	Average	1653	53.5	98.0	1.62	81.6
Crested-Alfalfa	1964	1539 ¹	70.8 ¹	82.5	1.68	82.5
	1965	4581	38.6	143.4	2.05	143.4
	Average	3060	54.7	112.9	1.86	112.9
Crested + 25 Lbs. N	1964	1179 ¹	76.8 ¹	49.1	1.00	65.4
	1965	2925	58.8	118.7	1.70	158.3
	Average	2052	67.8	83.9	1.35	111.8
Crested + 50 Lbs. N	1964	1993 ¹	86.2 ¹	44.8	0.91	67.1
	1965	4342	60.5	132.1	1.89	198.2
	Average	3167	73.3	88.4	1.40	132.6

¹Forage Yield and utilization in 1964 season based only on period of actual trial. Later production not included.

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