



University of Kentucky  
UKnowledge

---

International Grassland Congress Proceedings

21st International Grassland Congress / 8th  
International Rangeland Congress

---

## The Effect of Rapid Paddock Movement on Yearling Steer Weight Gain and Forage Condition in North-Central Nebraska, USA

D. G. Mickey Steward  
*Flying M Ranch*

Follow this and additional works at: <https://uknowledge.uky.edu/igc>



Part of the [Plant Sciences Commons](#), and the [Soil Science Commons](#)

This document is available at <https://uknowledge.uky.edu/igc/21/9-1/46>

The 21st International Grassland Congress / 8th International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

---

This Event is brought to you for free and open access by the Plant and Soil Sciences at UKnowledge. It has been accepted for inclusion in International Grassland Congress Proceedings by an authorized administrator of UKnowledge. For more information, please contact [UKnowledge@lsv.uky.edu](mailto:UKnowledge@lsv.uky.edu).

## The effect of rapid paddock movement on yearling steer weight gain and forage condition in north-central Nebraska ,USA

D.G Mickey Steward

Flying M Ranch ,Newport ,Nebraska ,65789 ,seacross@vcn.com

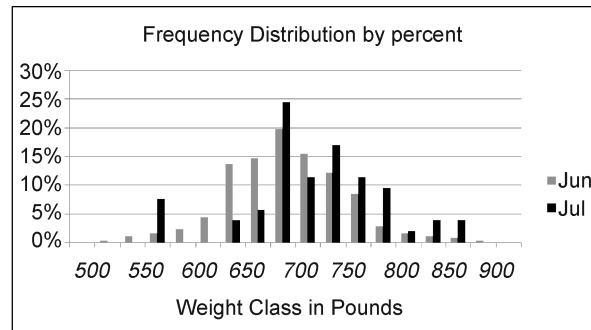
**Key words :** ultra-high stock density ,yearlings gain

**Introduction** Approximately 400 yearling steers in a mixed group of low-to-moderate quality animals of varying sizes and breeds were provided to the contract grazer by a backgrounding operation whose objective was to minimize winter feed costs and capitalize on summer gains . Most of the animals appeared to have Brahman and Charolais influence .

The grazing property can be found on the headwaters of the Elkhorn River in north-central Nebraska (42°9'357"N ;99°0'531' W) . Annual precipitation is approximately 1000 mm ,with annual variations from approximately 500 to 1500 mm . Most rain falls in May and June ,and as thunderstorms in July and August . The average summer temperature for the region is 20°C . Summer daytime temperatures over 38°C with high humidity and no wind are common .

The grazed pastures are low-lying ,flat ,and generally subirrigated (depth to water approximately 1 meter) . Water-filled potholes lie adjacent to stabilized sand dunes . Soils are poorly developed except in low-lying marshy areas ; parent material is derived primarily from windblown sands . Pasture vegetation varies from former haylands ( *Bromus inermis* and *Trifolium spp* .) ,to low-lying grasslands of *Panicum virgatum* , *Agrostis alba* , *Sorghastrum nutans* , and *Andropogon spp* . *Euphorbia esula* and *Glycyrrhiza lepidota* are significant weeds . Average annual production is around 3 ,000 kg/ha .

**Materials and methods** Pastures are permanently divided with electric and barbed wire into 20 ha and further subdivided by temporary electric fence into 4-5 ha paddocks (100-125 animals/ha) . 275 ha were used in the grazing program . Approximately 40% of this area was grazed twice ,once at the beginning of the season and once at the end . Copious groundwater delivered by pipeline into 1.5M portable tanks was available to the livestock at all times . Upon arrival ,the extremely nervous animals were carefully acclimated to electric fencing and frequent paddock movement . Low stress handling methods were employed at all times ,with most paddock moves made on foot . Midway between the grazing season pasture management changed from 30 animals per acre density , moved every two to three days , with approximately 50% forage removal ,to 50 animals per acre density ,moved every 18-24 hours and 30% forage removal .



**Results and discussion** The average steer in-weight was 275 kg ; average out-weight was 355 kg . The adjacent figure shows weight distributions after 41 and 67 days . The table below shows weight gain and average daily gain with time . The increase in average daily gain from 0.49 to 1.04 kg/day coincided with changes in grazing management . Post grazing re-growth increased in the more lightly grazed pastures utilized for less than 24 hours compared to the more heavily grazed longer utilized pastures and weed consumption increased . Fly infestations were reduced as time-in-paddock decreased . No animals were lost during the grazing program .

	8-May	18-Jun	14-Jul	10-Aug	Period					
Average Weight in Pounds (kg)	604	<u>275</u>	692	<u>315</u>	720	<u>327</u>	782	<u>355</u>		
Weight Difference in Pounds(kg)			88	<u>40</u>	28	<u>13</u>	62	<u>28</u>	178	<u>81</u>
Days			41		26		27		94	
Average Daily Gain in Pounds(kg)			2.15	<u>0.98</u>	1.08	<u>0.49</u>	2.30	<u>1.04</u>	1.89	<u>0.86</u>

Yearling steers born and raised on the ranch gained approximately 80 kgs more than the contract steers over the same period . This is attributed to superior genetics ,local adaptation ,and more favorable winter backgrounding .

**Conclusions** Increased stock density with extremely short-duration grazing and limited forage removal coincided with increased weight gain and improved pasture recovery . Fly infestations were reduced and weed consumption increased as time in paddock was reduced . Livestock demeanor and sociability were improved by increased handling . Locally adapted yearlings gained more than foreign stock .