

ECONOMIC IMPACT OF STOCKING STRATEGIES FOR STEERS GRAZING RYE- RYEGRASS PASTURES

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Background. Producers must be aware of the inherent market risks resulting from various buy-sell relationships associated with alternative procurement strategies to accomplish forage utilization goals. Experimental design and stocking strategies are outlined in a related article (Rouquette, Jr., et al.). The main goal of any stocker enterprise is to maximize net returns per acre above selected costs (stocker purchase, pasture production, supplemental feed purchases, and interest). Two strategies for acquiring steers and pasture management were investigated: Option 1) All 525-lb steers needed for the entire grazing period were purchased at the beginning of the season with some being stocked immediately on rye-ryegrass, and some deferred and provided hay and supplement until they were placed on pasture (variable (VR) strategy) at the early-March, "spring flush" to utilize additional forage; and Option 2) Steers were purchased at two different times during the grazing period: a) 525-lb steers were purchased in the fall at initial stocking; and b) 700-lb steers were purchased at "spring flush" when more animals were required to utilize additional forage (VR strategy). Price margins can dramatically affect returns from stocker programs. Ten-year price margins are presented in Table 1. Prices used to value cattle at purchase and sale included a ten-year average price and prices from years with the lowest and highest levels during that ten-year period (Table 2).

Research Findings. Two main factors which are important in generating positive net returns from stocker grazing programs include efficiency of gain, and relationships between purchase and sales prices. Price estimates indicated that variable stocking strategies used to increase stocking rate from either 1 or 2 hd/ac to 3 hd/ac was most profitable at more than \$300 net revenue per acre (Table 3). Purchasing all animals in the fall and maintaining some on a supplemental feed program (Option 1) was more profitable than buying additional animals at "spring flush" (Option 2) under prices used for this analysis. Producers using a fixed stocking strategy should stock at moderate levels to maximize net returns. Net revenues for continuous vs rotational stocking methods were similar; however, fencing and additional labor costs were not included in cost-return estimates.

Application. Producers should strive to optimize gain per acre once pasture production costs are incurred and are fixed. Net revenues from stocker steer programs on winter pastures fluctuate with variations in pasture and animal productivity, variations in market prices, and price margins. Developing breakeven analyses for alternative stocking and strategies based on local

historical data increases the opportunities for management to enhance profit. Opportunities for maximum returns depend primarily on purchase-sell margins and efficiency of forage utilization.

Table 1. Price margins for ten-year period from which Table 2 prices were selected.

Months and weights of stockers used to calculate margins (column 1 minus column 2)		AVERAGE (\$/cwt)	RANGE (\$/cwt)
December, buy 525-lb stockers	March, buy 700-lb stockers	-0.96	-9.84 to 8.71
December, buy 525-lb stockers	May, sell at off-pasture weights	13.29	-2.66 to 23.25
March, buy 700-lb stockers	May, sell at off-pasture weights	12.34	2.84 to 18.42

Table 2. Ten-year stoker prices used in valuation of stockers at selected weights.

PRICE CATEGORY	LOW PRICE YEAR	HIGH PRICE YEAR	10-YEAR AVG. PRICE
Dec 15 Price	\$ 66.33/cwt	\$ 108.00/cwt	\$ 88.25/cwt
Cost of 525-lb calf	\$ 348.23	\$ 567.00	\$ 463.31
Mar 15 Price	\$ 56.49/cwt	\$ 102.75/cwt	\$ 87.57/cwt
Cost of 700-lb calf	\$ 395.43	\$ 719.25	\$ 612.99
May 15 Price Applied to Out Weight	\$ 53.65/cwt	\$ 86.88/cwt	\$ 75.24/cwt
See off PAS weights			

Table 3. Off-pasture weight, total revenue, selected costs and net revenue per acre under various stocking rates, methods, and strategies.

STOCKING TREATMENT ¹	OFF PAS WEIGHT (lbs)	TOTAL REVENUE (\$/ac)			SELECTED COSTS ² (\$/ac)			NET REVENUE (\$/ac)		
		Low	High	Avg.	Low	High	Avg.	Low	High	Avg.
LO-CN-FX OPTION 1 & 2:	901	484	783	678	489	713	607	-6	70	71
LO-CN-VR OPTION 1:	915	1473	2385	2065	1401	2071	1753	72	314	312
OPTION 2:	915	1473	2385	2065	1280	2151	1833	192	234	233
LO-RT-FX OPTION 1 & 2:	901	484	783	678	489	713	607	-6	70	71
LO-RT-VR OPTION 1:	898	1445	2341	2027	1401	2071	1753	44	270	273
OPTION 2:	898	1445	2341	2027	1280	2151	1833	165	189	194
ME-CN-FX OPTION 1 & 2:	885	950	1538	1332	845	1291	1080	105	246	252
ME-CN-VR OPTION 1:	868	1397	2262	1959	1301	1971	1653	96	291	306
OPTION 2:	868	1397	2262	1959	1240	2011	1693	157	252	267
ME-RT-FX OPTION 1 & 2:	841	902	1461	1266	845	1291	1080	58	170	186
ME-RT-VR OPTION 1:	831	1337	2166	1876	1301	1971	1653	36	195	222
OPTION 2:	831	1337	2166	1876	1240	2011	1693	97	155	183

¹Stocking treatments were low (LO) and medium (ME) stocking rate; continuous (CN) and rotational (RT) stocked; and fixed (FX) and variable (VR) stocking strategies.

²Includes stoker animal purchase, pasture cost, supplemental feed cost, and interest. Does not account for additional fencing, water, and labor for rotational stocking systems.