Forage utilization of winter pastures is most important from the standpoint of biological efficiency by utilizing all forage produced and from the standpoint of economic efficiency by increasing gain per acre. Data from this 1-year trial clearly show the influence of rate of N on both quantity and quality of the pastures and the effect of both fertilizer, implant, and sex of calf on animal gains. Economic comparisons of these fertility-implant treatments are presented in a companion paper.

Economic Comparison of Ralgro Implant and Nitrogen Fertilizer Rate on Animal Performance from Rye-Ryegrass Pastures

F. M. Rouquette, Jr., G. C. Cornforth, and W. D. Taylor

Summary

Steers and heifers were grazed on rye-ryegrass pastures which had been fertilized at one of three rates of nitrogen. Calves were either implanted with Ralgro or non-implanted. Income and expenses were calculated for all treatment combinations, and returns above variable costs are presented. Liveweight gain per animal ranged from 185 lb for low nitrogen (L), non-implanted heifers to 442 lb for high nitrogen (H), implanted steers. Gain per acre followed similar trends with 271 and 987 lb/A for the L heifers and H steers, respectively. Returns above variable costs ranged from $-38.56 to $226.64 for L heifers and H steers, respectively. Detailed cost-return calculations are shown.

KEYWORDS: Rye-ryegrass pastures/animal performance/Ralgro implanted/non-implanted/Senepol/economic comparisons.

Introduction

Under most situations in East Texas, as the rate of nitrogen fertilizer is increased, forage production will also increase. At some fertilizer rate, a maximum dry matter yield will occur beyond which additional rates of fertilizer will have no positive effect on dry matter. However, biological increases in production may not necessarily translate to an increase in economic returns. Thus, the primary objective of this paper was to present economic comparisons of Ralgro implanted versus non-implanted Senepol steers and heifers grazing rye-ryegrass pastures which had received one of three rates of nitrogen fertilizer.

Procedure

This grazing trial has been described in the preceding paper. Spring-born, ½ Senepol x ¼ Brahman x ¼ Hereford, steers and heifers were either implanted with Ralgro or non-implanted and grazed on rye-ryegrass pastures from November to May. Pastures were fertilized at either 60-60-60, 120-60-60, or 230-60-60 lb/A N-P_2O_5-K_2O. Appropriate variable expenses were included for purposes of this economic evaluation.

Results and Discussion

Table 1 shows the price range for purchase and selling conditions during the week grazing was initiated and during the week grazing was terminated. Both purchase price and selling price were calculated to consider sex and weight of calf. Table 2 shows the beginning and ending

TABLE 1. PURCHASE AND SELLING PRICES FOR WEIGHT AND CLASS OF CATTLE DURING FALL 1984 AND SPRING 1985

Animal Class	Purchase Conditions		Selling Conditions	
	Weight Range (lb)	Price[1] Range ($/cwt)	Weight Range (lb)	Price[1] Range ($/cwt)
Steers	300-400	63-72	400-600	62-67
			640-875	59-62
Heifers	300-400	52.50-56.50	400-600	51.50-57

[1]Prices based on *Texas Livestock Market News* for weeks of grazing initiation and termination.

weights and prices for each replicate group. Purchase price of the steers (365 lb) was approximately $65/cwt and that of heifers (315 lb) was approximately $56/cwt. Because of the weight gain differences, the off-pasture weights and prices received for steers varied somewhat ($63 to $57/cwt). The value of gain from each replicate pasture-treatment was calculated using the purchase-selling information provided. The value of gain represents that amount of money, on a per head basis, that was available to pay all expenses associated with the grazing system. Only the purchase price has been deducted from this figure. Therefore, for non-implanted steers grazing L pastures, there were $124.84 with which to pay items such as interest on calf, interest on pasture, all pasture costs, etc. And, the value of that gain was calculated to be $56.49/cwt (value of gain per head ÷ cwt gain per head). This is not to be confused with cost per pound of gain which is presented in another Table.

Data presented in Table 3 from the Test period attempt to make comparisons between the various treatment combinations on a per acre basis using the value of gain/cwt as a reference point. All of the data shown in this table are "gross" receipts of values with only the original purchase price being deducted and the remainder to be applied to all expenses and profits. It was interesting to note the increase in value of gain per acre for steers from about $200/A to nearly $500/A within the treatment groups. The percentage increase in value of gain/A for heifers was similar to steers. Steers had more gross value/A than did heifers except for the non-implanted group on M pastures. The value of fertilizers with respect to total or gross value/A was calculated using fertilizer input costs of $42, $57, and $84.50/A for L, M, and H pastures, respectively. There was no advantage in the M rate over the L rate, and part of this was due to the total weight gain per acre which was depressed due to lowered stocking rates. There was a marked enhancement in fertilizer value between the H rate and either L or M. With respect to heifers, the M fertilizer rate improved the value of non-implanted calves by $100/A, but on implanted calves, the improvement was only about $50/A.

Table 4 shows economic data for the Total period. Of particular interest in this table was the value of implanting on both steers and heifers. The data suggested an improvement in value due to implants of about $35/A for steers and about $20/A for heifers. Among heifers, there appeared to be a trend which indicated that implants were most valuable under the lowest rate of N. This may also suggest that Ralgro implants may have the greatest potential effect on lower quality diets.

Tables 5 to 8 show itemized expenses associated with variable costs for the low N fertilized pastures. The returns shown are to be applied to those fixed costs such as land, etc. Both groups of heifers (implanted and non-implanted) showed negative returns on the investment. Returns above variable costs for steers were $6.75 and $20.70/A for non-implanted and implanted steers, respectively.

Tables 9 to 12 show returns above variable costs for those pastures which received the medium rate of N fertilizer. The implanted steers showed returns of nearly $55.00/A; whereas, the other three groups had returns of approximately $18.00/A. Tables 13 to 16 show returns for

TABLE 2. PURCHASE AND SELLING PRICES ACCORDING TO SEX OF CALF AND WEIGHTS DURING FALL 1984 AND SPRING 1985

Treatments			Animal Weight[1]			Price[2]		Value[3] of Gain	Value of[4] Gain
Fert.	Imp.	Sex	In	Out	Gain	In	Out		
			(lb)			($/cwt)		($/hd)	($/cwt)
L	O	S	360	581	221	66.60	62.75	124.84	56.49
L	I	S	364	595	231	66.24	62.57	131.20	56.80
M	O	S	362	628	266	66.42	61.30	144.52	54.33
M	I	S	365	670	305	66.15	60.25	162.23	53.19
H	O	S	360	738	378	66.60	58.55	192.34	50.88
H	I	S	368	810	442	65.88	56.75	217.24	49.15
L	O	H	320	505	185	55.70	54.11	95.03	51.37
L	I	H	322	569	247	55.62	52.35	118.79	48.09
M	O	H	305	541	236	56.30	53.12	115.68	49.02
M	I	H	314	581	267	55.94	52.02	126.60	47.42
H	O	H	304	582	278	56.34	51.99	131.34	47.24
H	I	H	311	612	301	56.06	51.17	138.81	46.12

[1]Animal Performance during total grazing period.

[2]Prices based on *Texas Livestock Market News* for weeks of grazing initiation and termination.

[3]Value of gain per head available to pay all costs except initial purchase price of animal (purchase price has been deducted).

[4]Value of gain ÷ cwt weight gain = value of gain per cwt.

pastures fertilized at the high rate of N. Both groups of steers (Tables 13 and 15) had returns of approximately $200.00/A; whereas, the heifer groups were at approximately $55.00/A. Certainly, the economic benefits of the added N fertilizer were exhibited by the influence on stocking rate via added dry matter production and quality by maintaining the small grain-ryegrass pastures in an immature, vigorously growing stage.

Table 17 presents a summary of cost-return data for the fertilizer-implant-sex treatments. Cost of gain for the pasture portion and the total pasture plus animal costs are presented in Table 18. As gain per animal increased, the cost of gains declined. The magnitude of this decline in cost per pound of gain was interesting to note between the low fertilized, heifer groups and the high fertilized, steer groups. As shown, the pasture costs actually are relatively small compared to the total animal + pasture costs. The cost/lb gain (using pasture costs only) ranged from less than $.07/lb for the high N pastures to about $.11/lb for the medium N rate pastures. The most significant point is that for this single year winter pasture trial, the cost/lb gain was less than $.10/lb when considering only the pasture costs. In order for a confinement trial to be competitive with these costs, cattle would have to convert at the rate of 2 lb feed/lb gain. Thus, the winter pasture costs associated with the stockering enterprises in East Texas have a competitive advantage. The profit-loss statements depend, however, on factors such as buying-selling price margins, other animal-related costs, and climatic conditions which affect plant growth. The data presented are from a one-year trial and interpretations for commercial operations should be used accordingly. Winter pasture programs in East Texas will continue to be a profitable venture insofar as gain/animal and gain/A performances are similar to those presented.

TABLE 3. ECONOMIC COMPARISONS OF A PER ACRE BASIS OF TREATMENTS DURING "TEST" PERIOD

Treatments			Value of Gain/cwt	Gain/ Acre[1]	Value of Gain/A[2]	Value of Implants/A[3]	Value of S vs H[4]	Value of Fertilizer		
Fert.	Imp.	Sex	($/cwt)	(lb/A)	($/A)	($/A)	($/A)	L vs M ($/A)	M vs H ($/A)	L vs H ($/A)
L	O	S	56.49	363	$205.05	—	$65.84	—	—	—
L	I	S	56.80	386	219.24	$14.19	79.77	—	—	—
M	O	S	54.33	350	190.16	—	−51.00	−$14.88	—	—
M	I	S	53.19	421	223.93	33.76	37.11	4.69	—	—
H	O	S	50.88	908	462.02	—	144.07	—	$271.86	$256.97
H	I	S	49.15	987	485.10	23.08	179.80	—	261.17	265.85
L	O	H	51.37	271	139.20	—		—	—	—
L	I	H	48.09	290	139.47	0.27		—	—	—
M	O	H	49.02	492	241.16	—		101.96	—	—
M	I	H	47.42	394	186.82	−54.34		47.35	—	—
H	O	H	47.24	673	317.95	—		—	76.79	178.75
H	I	H	46.12	662	305.30	−12.65		—	118.48	165.83

[1]Gain/A calculated for "Test" period of 111 days for Low and 139 days for Medium and High Fertilizer levels.
[2]Value of gain per acre represents gross income to cover all expenses except purchase price.
[3]Value of implants on an acre basis with comparisons made within a sex.
[4]Value per acre of steers over heifers.

TABLE 4. ECONOMIC COMPARISONS OF A PER ACRE BASIS OF TREATMENTS DURING "TOTAL" PERIOD

Treatments			Value of Gain/cwt	Gain/ Acre[1]	Value of Gain/A[2]	Value of Implants/A[3]	Value of S vs H[4]	Value of Fertilizer		
Fert.	Imp.	Sex	($/cwt)	(lb/A)	($/A)	($/A)	($/A)	L vs M ($/A)	M vs H ($/A)	L vs H ($/A)
L	O	S	$56.49	405	$228.77	—	$37.17	—	—	—
L	I	S	$56.80	470	266.95	$38.18	47.65	—	—	—
M	O	S	54.33	370	201.03	—	−42.09	−$27.74	—	—
M	I	S	53.19	525	279.24	78.21	14.56	12.29	—	—
H	O	S	50.88	980	498.66	—	150.47	—	$297.63	269.88
H	I	S	49.15	1083	532.28	33.62	186.40	—	253.03	265.33
L	O	H	51.37	373	191.60	—		—	—	—
L	I	H	48.09	456	219.30	27.71		—	—	—
M	O	H	49.02	496	243.12	—		51.52	—	—
M	I	H	47.42	558	264.58	21.46		45.27	—	—
H	O	H	47.24	737	348.19	—		—	105.07	156.59
H	I	H	46.12	750	345.88	−2.30		—	81.30	126.58

[1]Gain/A calculated for "Total" period of 183 days.
[2]Value of gain per acre represents gross income to cover all expenses, including hay and corn during winter, except purchase price.
[3]Value of implants on an acre basis with comparisons made within a sex.
[4]Value per acre of steers over heifers.

TABLE 5. ESTIMATED COSTS AND RETURNS FROM STOCKER *STEERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Low Nitrogen; No Implant; Steers		
INCOME: 581 lb@$62.75/cwt; 1.83 hd/A	$364.58	$667.18
VARIABLE COSTS:		
Animal		
Initial Cost (360 lb@$66.60/cwt; 1.83 hd/A)	239.76	438.76
Hay (56 da × 10#/hd/da × 2.5¢/lb)	14.00	25.62
Corn (4.5#/hd/da × 56 da × 6.25¢/lb)	15.75	28.82
Vet & Medicine	2.85	5.22
Labor	1.50	2.75
Mineral, Salt	1.50	2.75
Death Loss (2% of initial value)	4.80	8.78
Hauling, Marketing, etc.	8.00	14.64
Sub-Total	288.16	527.34
Interest on Operating[1] (13½%@225 days)	22.03	40.31
TOTAL COSTS	310.19	567.65
Pasture		
Seed	12.02	22.00
Planting	1.91	3.50
Lime (one ton@⅓ acreage)	4.64	8.50
Insecticide	1.64	3.00
Fertilizer (60-60-60)	22.95	42.00
Sub-Total	43.17	79.00
Interest (13½%@225 days)	3.45	6.32
Extra Pasture (16 days)	4.08	7.46
TOTAL COSTS	50.70	92.78
TOTAL ANIMAL + PASTURE COSTS	360.89	660.43
RETURN ABOVE VARIABLE COSTS	$ 3.69	$ 6.75

[1]Interest not calculated on Death Loss and Hauling.

TABLE 6. ESTIMATED COSTS AND RETURNS FROM STOCKER *HEIFERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Low Nitrogen; No Implant; Heifers		
INCOME: 505 lb@$54.11/cwt; 1.88 hd/A	$ 273.26	$ 513.73
VARIABLE COSTS:		
Animal		
Initial Cost (320 lb@$55.70/cwt; 1.88 hd/A)	178.24	335.09
Hay (56 da × 10# × 2.5¢/lb)	14.00	26.32
Corn (4.5#/hd/da × 56 da × 6.25¢/lb)	15.75	29.61
Vet & Medicine	2.85	5.36
Labor	1.50	2.82
Mineral, Salt	1.50	2.82
Death Loss (2% of initial value)	5.47	10.28
Hauling, Marketing, etc.	8.00	15.04
Sub-Total	227.31	427.34
Interest on Operating[1] (13½%@225 days)	17.11	32.17
TOTAL COSTS	244.42	459.51
Pasture		
Same as Table 5 w/extra 16 days		
TOTAL COSTS	49.35	92.78
TOTAL ANIMAL + PASTURE COSTS	293.77	552.29
RETURN ABOVE VARIABLE COSTS	$ −20.51	$ −38.56

[1]Interest not calculated on Death Loss and Hauling.

TABLE 7. ESTIMATED COSTS AND RETURNS FROM STOCKER *STEERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Low Nitrogen; Implant; Steers		
INCOME: 595 lb@$62.57/cwt; 1.95 hd/A	$372.29	$725.97
VARIABLE COSTS:		
Animal		
Initial Cost (364 lb@$66.24/cwt; 1.95 hd/A)	241.11	470.16
56 days Feed + Hay	29.75	58.01
Vet, Labor, Mineral, Salt	5.85	11.41
Implant	2.25	4.39
Death Loss (2% of initial value)	4.82	9.40
Hauling, Marketing, etc.	8.00	15.60
Sub-Total	291.78	568.97
Interest on Operating[1] (13½%@225 days)	22.32	43.52
TOTAL COSTS	314.10	612.49
Pasture		
Same as Table 5 w/extra 16 days		
TOTAL COSTS	47.58	92.78
TOTAL ANIMAL + PASTURE COSTS	361.68	705.27
RETURN ABOVE VARIABLE COSTS	$ 10.61	$ 20.70

[1]Interest not calculated on Death Loss and Hauling.

TABLE 12. ESTIMATED COSTS AND RETURNS FROM STOCKER *HEIFERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Medium Nitrogen; Implant; Heifers		
INCOME: 581 lb@$52.02/cwt; 1.96 hd/A	$302.24	$592.39
VARIABLE COSTS:		
Animal		
Initial Cost (314 lb@$55.94/cwt; 1.96 hd/A)	175.65	344.27
Feed + Hay (44 days)	23.38	45.82
Vet, Labor, Mineral	5.85	11.47
Implant	2.25	4.41
Death Loss (2% of initial value)	3.51	6.88
Hauling, Marketing, etc.	8.00	15.68
Sub-Total	218.64	428.53
Interest on Operating[1] (13½%@225 days)	16.57	32.48
TOTAL COSTS	235.21	461.01
Pasture		
Same as Table 9	51.80	101.52
Extra 20 days grazing @ $101.52 ÷ 183 × 20 days)	5.66	11.10
TOTAL COSTS	57.46	112.62
TOTAL ANIMAL + PASTURE COSTS	292.67	573.63
RETURN ABOVE VARIABLE COSTS	$ 9.57	$ 18.76

[1]Interest not calculated on Death Loss and Hauling.

TABLE 13. ESTIMATED COSTS AND RETURNS FROM STOCKER *STEERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: High Nitrogen; No Implant; Steers		
INCOME: 738 lb@$58.55/cwt; 2.43 hd/A	$432.10	$1,050.00
VARIABLE COSTS:		
Animal		
Initial Cost (360 lb@$66.60/cwt; 2.43 hd/A)	239.76	582.62
Feed + Hay (44 days)	23.38	56.81
Vet, Labor, Mineral	5.85	14.22
Death Loss (2% of initial value)	4.80	11.66
Hauling, Marketing, etc.	8.00	19.44
Sub-Total	281.79	684.75
Interest on Operating[1] (13½%@225 days)	21.52	52.29
TOTAL COSTS	303.31	737.04
Pasture		
Seed	9.05	22.00
Custom Planting	1.44	3.50
Lime	3.50	8.50
Insecticide	1.23	3.00
Fertilizer (230-60-60)	34.77	84.50
Sub-Total	49.99	121.50
Interest (13½%@225 days)	4.01	9.72
TOTAL COSTS	54.00	131.22
TOTAL ANIMAL + PASTURE COSTS	357.31	868.26
RETURN ABOVE VARIABLE COSTS	$ 74.79	$ 181.74

[1]Interest not calculated on Death Loss and Hauling.

TABLE 14. ESTIMATED COSTS AND RETURNS FROM STOCKER *HEIFERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: High Nitrogen; No Implant; Heifers		
INCOME: 582 lb@$51.99/cwt; 2.46 hd/A	$302.58	$744.35
VARIABLE COSTS:		
Animal		
Initial Cost (304 lb@$56.34/cwt; 2.46 hd/A)	171.27	421.32
Feed + Hay (44 days)	23.38	57.51
Vet, Labor, Mineral	5.85	14.39
Death Loss (2% of initial value)	3.43	8.43
Hauling, Marketing, etc.	8.00	19.68
Sub-Total	211.93	521.33
Interest on Operating[1] (13½%@225 days)	16.04	39.48
TOTAL COSTS	227.97	560.81
Pasture		
Same as Table 13		
TOTAL COSTS	53.34	131.22
TOTAL ANIMAL + PASTURE COSTS	281.11	692.03
RETURN ABOVE VARIABLE COSTS	$ 21.47	$ 52.32

[1]Interest not calculated on Death Loss and Hauling.

TABLE 15. ESTIMATED COSTS AND RETURNS FROM STOCKER *STEERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: High Nitrogen; Implant; Steers		
INCOME: 810 lb@$56.75/cwt; 2.37 hd/A	$459.68	$1,089.44
VARIABLE COSTS:		
Animal		
Initial Cost (368 lb@$65.88/cwt; 2.37 hd/A)	242.44	574.58
Hay(10#/hd/day × 2.5¢/lb × 44 days)	11.00	26.07
Corn (4.5#/hd/da × 44 da × 6.25¢/lb)	12.38	29.34
Vet, Medicine	2.85	6.75
Labor	1.50	3.56
Mineral, Salt	1.50	3.56
Implant	2.25	5.33
Death Loss (2% of initial value)	4.85	11.49
Hauling, Marketing, etc.	8.00	18.96
Sub-Total	286.77	679.64
Interest on Operating[1] (13½%@225 days)	21.91	51.94
TOTAL COSTS	308.68	731.58
Pasture		
Same as Table 13		
TOTAL COSTS	55.37	131.22
TOTAL ANIMAL + PASTURE COSTS	364.05	862.80
RETURN ABOVE VARIABLE COSTS	$ 95.63	$ 226.64

[1]Interest not calculated on Death Loss and Hauling.

TABLE 8. ESTIMATED COSTS AND RETURNS FROM STOCKER *HEIFERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Low Nitrogen; Implant; Heifers		
INCOME: 569 lb@$52.35/cwt; 1.74 hd/A	$ 297.87	$ 518.29
VARIABLE COSTS:		
Animal		
Initial Cost (322 lb@$55.62/cwt; 1.74 hd/A)	179.10	311.63
56 days Feed + Hay	29.75	51.77
Vet, Labor, Mineral, Salt	5.85	10.18
Implant	2.25	3.92
Death Loss (2% of initial value)	3.58	6.23
Hauling, Marketing, etc.	8.00	13.92
Sub-Total	228.53	397.65
Interest on Operating[1] (13½%@225 days)	17.36	30.21
TOTAL COSTS	245.89	427.86
Pasture		
Same as Table 5 w/extra 16 days		
TOTAL COSTS	53.32	92.78
TOTAL ANIMAL + PASTURE COSTS	299.21	520.64
RETURN ABOVE VARIABLE COSTS	$ – 1.34	$ – 2.35

[1]Interest not calculated on Death Loss and Hauling.

TABLE 9. ESTIMATED COSTS AND RETURNS FROM STOCKER *STEERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Medium Nitrogen; No Implant; Steers		
INCOME: 628 lb@$61.30/cwt; 1.46 hd/A	$384.96	$562.04
VARIABLE COSTS:		
Animal		
Initial Cost (362 lb@$66.42/cwt; 1.46 hd/A)	240.44	351.04
Feed + Hay (44 days)	23.38	34.13
Vet, Labor, Mineral	5.85	8.54
Death Loss (2% of initial value)	4.81	7.02
Hauling, Marketing, etc.	8.00	11.68
Sub-Total	282.48	412.41
Interest on Operating[1] (13½%@225 days)	21.57	31.50
TOTAL COSTS	304.05	443.91
Pasture		
Seed	15.07	22.00
Custom Planting	2.40	3.50
Lime	5.82	8.50
Insecticide	2.05	3.00
Fertilizer (120-60-60)	39.04	57.00
Sub-Total	64.38	94.00
Interest (13½%@225 days)	5.15	7.52
TOTAL COSTS	69.53	101.52
TOTAL ANIMAL + PASTURE COSTS	373.58	545.43
RETURN ABOVE VARIABLE COSTS	$ 11.38	$ 16.61

[1]Interest not calculated on Death Loss and Hauling.

TABLE 10. ESTIMATED COSTS AND RETURNS FROM STOCKER *HEIFERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Medium Nitrogen; No Implant; Heifers		
INCOME: 541 lb@$53.12/cwt; 2.02 hd/A	$287.38	$580.51
VARIABLE COSTS:		
Animal		
Initial Cost (305 lb@$56.30/cwt; 2.02 hd/A)	171.72	346.87
Feed + Hay (44 days)	23.38	47.23
Vet, Labor, Mineral	5.85	11.82
Death Loss (2% of initial value)	3.43	6.93
Hauling, Marketing, etc.	8.00	16.16
Sub-Total	212.38	429.01
Interest on Operating[1] (13½%@225 days)	16.08	32.48
TOTAL COSTS	228.46	461.49
Pasture		
Same as Table 9		
TOTAL COSTS	50.26	101.52
TOTAL ANIMAL + PASTURE COSTS	278.72	563.01
RETURN ABOVE VARIABLE COSTS	$ 8.66	$ 17.50

[1]Interest not calculated on Death Loss and Hauling.

TABLE 11. ESTIMATED COSTS AND RETURNS FROM STOCKER *STEERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: Medium Nitrogen; Implant; Steers		
INCOME: 670 lb@$60.25/cwt; 1.62 hd/A	$403.68	$653.96
VARIABLE COSTS:		
Animal		
Initial Cost (365 lb@$66.15/cwt; 1.62 hd/A)	241.45	391.15
Feed + Hay (44 days)	23.38	37.88
Vet, Labor, Mineral	5.85	9.48
Implant	2.25	3.65
Death Loss (2% of initial value)	4.83	7.82
Hauling, Marketing, etc.	8.00	12.96
Sub-Total	285.76	462.94
Interest on Operating[1] (13½%@225 days)	21.83	35.36
TOTAL COSTS	307.59	498.30
Pasture		
Same as Table 9		
TOTAL COSTS	62.67	101.52
TOTAL ANIMAL + PASTURE COSTS	370.26	599.82
RETURN ABOVE VARIABLE COSTS	$ 33.42	$ 54.14

[1]Interest not calculated on Death Loss and Hauling.

TABLE 16. ESTIMATED COSTS AND RETURNS FROM STOCKER *HEIFERS* GRAZING SMALL GRAIN-RYEGRASS PASTURE

	Per Head	Per Acre
TREATMENT: High Nitrogen; Implant; Heifers		
INCOME: 612 lb@$51.17/cwt; 2.40 hd/A	$313.16	$751.58
VARIABLE COSTS:		
Animal		
Initial Cost (311 lb@$56.06/cwt; 2.40 hd/A)	174.35	418.44
Feed + Hay (44 days)	23.38	56.11
Vet, Labor, Mineral	5.85	14.04
Implant	2.25	5.40
Death Loss (2% of initial value)	3.49	8.38
Hauling, Marketing, etc.	8.00	19.20
Sub-Total	217.32	521.57
Interest on Operating[1] (13½%@225 days)	16.47	39.53
TOTAL COSTS	233.79	561.10
Pasture		
Same as Table 13		
TOTAL COSTS	54.68	131.22
TOTAL ANIMAL + PASTURE COSTS	288.47	692.32
RETURN ABOVE VARIABLE COSTS	$ 24.69	$ 59.26

[1]Interest not calculated on Death Loss and Hauling.

TABLE 18. COST PER POUND OF GAIN FOR VARIOUS WINTER PASTURE TREATMENTS

Treatment			Cost per Pound of Gain	
Fert.	Imp.	Sex	Pasture Cost Only ($)	Pasture + Animal Costs ($)
L	O	S	.087	.621
L	I	S	.080	.608
M	O	S	.111	.595
M	I	S	.094	.553
H	O	S	.073	.484
H	I	S	.068	.449
L	O	H	.098	.582
L	I	H	.094	.526
M	O	H	.093	.515
M	I	H	.099	.504
H	O	H	.092	.483
H	I	H	.089	.471

TABLE 17. SUMMARY OF ESTIMATED VARIABLE COSTS AND RETURNS ABOVE VARIABLE COSTS FOR VARIOUS WINTER PASTURE TREATMENTS

Treatment			Animal Costs		Pasture Costs		Total Costs		Income		Returns	
Fert.	Imp.	Sex	Per HD	Per A	Per HD	Per A	Per HD	Per A	Per HD	Per A	Per HD	Per A
L	O	S	310.19	567.65	50.70	92.78	360.89	660.43	364.58	667.18	3.69	6.75
L	I	S	314.10	612.49	47.58	92.78	361.68	705.27	372.29	725.29	10.61	20.70
M	O	S	304.05	443.91	69.53	101.52	373.58	545.43	384.96	562.04	11.38	16.61
M	I	S	307.59	498.30	62.67	101.52	370.26	599.82	403.68	653.96	33.42	54.14
H	O	S	303.31	737.04	54.00	131.22	357.31	868.26	432.10	1,050.00	74.79	181.74
H	I	S	308.68	731.58	55.37	131.22	364.05	862.80	459.68	1,089.44	95.63	226.64
L	O	H	244.42	459.51	49.35	92.78	293.77	552.29	273.26	513.73	−20.51	−38.56
L	I	H	245.89	427.86	53.32	92.78	299.21	520.64	297.87	518.29	−1.34	−2.35
M	O	H	228.46	461.49	50.26	101.52	278.72	563.01	287.38	580.51	8.66	17.50
M	I	H	235.21	461.01	57.46	112.62	292.67	573.63	302.24	592.39	9.57	18.76
H	O	H	227.97	560.81	53.34	131.22	281.11	692.03	302.58	744.35	21.47	52.32
H	I	H	233.79	561.10	288.47	692.32	288.47	692.32	313.16	751.58	24.69	59.26