



# Current Report

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## VISACALC<sup>®</sup> PROGRAM TO ESTIMATE PASTURE CATTLE COSTS OSU EPASTURE

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The following text describes the equations and methods for estimating the cost and performance of stocker cattle grazing pastures, using the simple version of an electronic spread sheet such as Visacalc<sup>®</sup>. Unique features of this program include equations to predict the effects of feeding energy feeds on grass, feeding high protein concentrates such as soybean meal, Rumensin<sup>®</sup>, and implants. The format allows the user to readily see the impact of various rates of gain on the financial parameters. To use this template the prospective user must purchase the spread sheet software for his computer, and become familiar with its use.

Rate of gain is usually the single most important factor in determining cost of gain with stocker cattle. There are numerous management practices which can effect rate of gain. All have some impact both positive and negative on costs and profitability. Before the advent of the electronic spread-sheet budgets to check out the impacts were laborious and often incomplete. Table 1 is an actual print out of EPASTURE. The standard inputs are common to most cattlemen. They are listed in order that they appear on the left of the sheet.

1. Cattle cost per hundred weight delivered including freight and commission.
2. Purchase weight in pounds
3. Days pastured
4. Equity in the cattle in dollars per head
5. Cattle finance rate in (%)
6. Pasture costs in dollars per hundred weight per month
7. Medical Cost (\$) per head
8. Death loss percent expected
9. Labor cost per head per day (in \$)
10. Marketing cost per head
11. Fixed feed cost per head (salt, mineral, etc)
12. Interest on operating capital (all except the original cattle cost)

Discussion of the optional inputs will follow. The impacts of the first 12 items are shown in the set of figures labeled "BASE" (gain, cost, sale weight, break even, sale price, profit, and return on equity). If all the optional items are set to 0 the "BASE" and the "EST" will be the same in each row at the bottom of the form. Above the bottom part of the form you can see the total cost per head and the daily cost on the cattle.

These figures are meaningful only if all the optional items are set to 0. These totals will reflect the total cost of items both standard and optional (\*). However, at the bottom table where gains are shown, the cost of OPTIONAL ITEMS (\*) are subtracted out under the base headings so that you can see the effect of an option on gain and cost compared to the the unchanged base.

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Note the PRICE STRUCTURE AT SALE WTS table (this is a "lookup" table). The first of 10 weight classes should start in J5 and the last should be located in J14. Just to the right of each of these values should be the cattle prices in dollars per hundred. Weight classes should start with the lightest and progress through the heaviest (note the example).

At the bottom of the table are printed the factors used in calculating the effects of implants (12% increase in gain), feed (.09 pound of gain per pound of feed fed), protein (with the indication of protein .15 pound of gain is added once regardless of the quantity of feed), and Rumensin® (.2 pounds of gain per day is added). These factors are shown in the columns indicated by (\*EST). It will take skill and judgement on the part of the user for these values to be meaningful. Caution should be used to be sure that only real additions are made. For example, at the present time Rumensin® cannot be fed without adding feed.

Table 2 shows the working part of the spread sheet with column headings and rows numbered to correspond to the program listing which follows in Appendix 1. The headings have been edited out of the program listing. If you wish to enter this program from key board it is suggested that you first type all headings and labels, the data second and then use the listing for the equations.

Wherever possible it may be feasible and desirable to receive this program on disk or via modem. Copies of OSU Animal Science developed programs are available from: Extension Animal Science Department, 201 Animal Science Building, Oklahoma State University, Stillwater Ok 74078. Programs on 8 inch data disks for TRS-80® are available at a cost of \$25 each for the disk and return postage. Additional programs on the same disk cost \$20 each.

This program may be custom tailored to your needs by using the insert command and adding your rows between rows 14 and 16. If properly done, data entered in column D (i.e. trucking expense) may be transferred to column F by the +Dn command (n=row number). Row H can be completed by replicating the equation above the insertion. When asked if the values are repetitive (R) or non-repetitive (N), the value that you have just inserted is repetitive (R) and the days pastured (D6) is non-repetitive (N).

The animal response to protein addition may not be similar to the predicted values in some cases or locations. Before using this feature be sure and check with your OSU livestock advisor. Only high protein concentrates (at least 38% protein) could be expected to give this type of response. Pasture will have to be the type and composition which can respond to protein supplementation. For more information read OSU Fact Sheet No 3017 Feeding High Protein Range Cubes.

Rumensin® response is predicted using data found in the Rumensin® Technical Manual for Pasture and Range Cattle, Elanco Products Company.

For information on feeding grain on grass see OSU Fact Sheet No F-3011 Feeding Cattle on Grass.



Table 1 Actual print out of OSU EPASTURE program.

PASTURE GAIN ANALYSIS; WITH PROFIT OR LOSS		SUGGESTED PRINT N45 OR N60		PRICE STRUCTURE AT SALE WTS	
(INPUTS)		CATTLE SELLING PRICE ---->>>>		WEIGHT \$ PER CWT	
CATTLE COST \$ PER CWT.	75			450	75.00
PURCHASE WEIGHT LBS.	450			500	74.00
DAYS PASTURED	140			550	73.00
(INPUTS)		TOTAL COST	COST /DAY	600	72.00
EQUITY IN \$ PER HEAD	75.00			650	71.00
CATTLE INTEREST (RATE) %	13.50	17.72	0.13	700	70.00
PASTURE COST \$ / CWT / MO.	2.00	42.00	0.30	750	69.00
MEDICAL COST / HEAD (\$)	7.00	7.00	0.05	800	68.00
DEATH LOSS (%)	0.75	2.53	0.02	850	67.00
LABOR COST (\$) PER HEAD DAY	0.05	7.00	0.05	900	66.00
MARKETING COST PER HEAD (\$)	0.00	0.00	0.00		
FIXED FEED COST (\$) HEAD	5.00	5.00	0.04		
*IMPLANT (\$), COST (\$)	1.25*	1.25	0.01		
*IMPLANTS 0=NONE, 1=IMPLANT	1*				
*RUMENSIN 0=NO, 1= RUMENSIN	0*				
*FEED 0=ENERGY, 1=PROTEIN	0*				
*POUNDS PER HEAD PER DAY	0.00*				
*FEED COST PER 100 LBS.	0.00*	0.00	0.00		
OPERATING CAPITAL INTEREST	13.50	1.70	0.01		
	TOTAL \$	84.20	0.60		

COST OF GAIN DEPENDING ON RATE OF GAIN

DAILY GAIN #		COST OF GAIN		SALE WEIGHT		BREAK EVEN \$		PRICE OF CATTLE		PROFIT OR LOSS		RETURN ON EQUITY	
BASE	*EST.	BASE	*EST.	BASE	*EST.	BASE	*EST.	BASE	*EST.	BASE	*EST.	BASE	*EST.
0.50	0.56	1.18	1.07	520.00	528.40	80.85	79.81	74.00	74.00	-35.62	-30.68	-123.81	-106.67
0.75	0.84	0.79	0.72	555.00	567.60	75.75	74.30	73.00	73.00	-15.27	-7.35	-53.07	-25.56
1.00	1.12	0.59	0.54	590.00	606.80	71.26	69.50	73.00	72.00	10.28	15.20	35.74	52.82
1.25	1.40	0.47	0.43	625.00	646.00	67.27	65.28	72.00	72.00	29.58	43.42	102.83	150.93
1.50	1.68	0.39	0.36	660.00	685.20	63.70	61.54	71.00	71.00	48.18	64.79	167.49	225.23
1.75	1.96	0.34	0.31	695.00	724.40	60.49	58.21	71.00	70.00	73.03	85.38	253.87	296.80
2.00	2.24	0.30	0.27	730.00	763.60	57.59	55.23	70.00	69.00	90.58	105.18	314.88	365.64
2.25	2.52	0.26	0.24	765.00	802.80	54.96	52.53	69.00	68.00	107.43	124.20	373.46	431.75

DEVELOPED BY DONALD GILL, OKLAHOMA STATE UNIVERSITY, 1982

NOTE; BASE GAIN ETC. DOES NOT INCLUDE THE EFFECTS OF DAILY FEED,IMPLANTS, OR RUMENSIN. THE EST. GAIN ETC. IS EFFECTED BY THE ITEMS MARKED BY THE (\*). WHEN IMPLEMENTING THESE OPTIONS KEEP IN MIND THAT; IMPLANTS INCREASE GAIN 12%, FEED (.09# GAIN /LB. FEED), PROTEIN (.15 LB GAIN) AND RUMENSIN (.2 LB /DAY ADDITION). \*\*\* FEED MUST BE PRESENT IF THERE IS A 1 FOR EITHER RUMENSIN OR PROTEIN. SEE YOUR OSU LIVESTOCK ADVISOR.  
EPASTURE/VC MODIFIED MARCH 05,1983

Table 2 Print out of the working part of OSU EPASTURE program with column headings and rows in place.

>>>[ A ] [ B ] [ C ] [ D ] [ E ] [ F ] [ G ] [ H ] [ I ] [ J ] [ K ] [ L ] [ M ] [ N ]		SUGGESTED PRINT N45 OR N60		PRICE STRUCTURE AT SALE WTS	
01>PASTURE GAIN ANALYSIS;		SUGGESTED PRINT N45 OR N60		PRICE STRUCTURE AT SALE WTS	
02>WITH PROFIT OR LOSS					
03>		(INPUTS)		WEIGHT \$ PER CWT	
04>CATTLE COST \$ PER CWT.		75		CATTLE SELLING PRICE ---->>>>	
05>PURCHASE WEIGHT LBS.		450		450 75.00	
06>DAYS PASTURED		140		500 74.00	
07>		(INPUTS)		TOTAL COST COST /DAY	
08>EQUITY IN \$ PER HEAD		75.00		550 73.00	
09>CATTLE INTEREST (RATE) %		13.50		600 72.00	
10>PASTURE COST \$ / CWT / MO.		2.00		650 71.00	
11>MEDICAL COST / HEAD (\$)		7.00		700 70.00	
12>DEATH LOSS (%)		0.75		750 69.00	
13>LABOR COST (\$) PER HEAD DAY		0.05		800 68.00	
14>MARKETING COST PER HEAD (\$)		0.00		850 67.00	
15>FIXED FEED COST (\$) HEAD		5.00		900 66.00	
16>*IMPLANT (\$), COST (\$)		1.25*			
17>*IMPLANTS 0=NONE, 1=IMPLANT		1*			
18>*RUMENSIN 0=NO, 1= RUMENSIN		0*			
19>*FEED 0=ENERGY, 1=PROTEIN		0*			
20>*POUNDS PER HEAD PER DAY		0.00*			
21>*FEED COST PER 100 LBS.		0.00*		0.00	
22>OPERATING CAPITAL INTEREST		13.50		1.70 0.01	
23>		TOTAL \$		84.20 0.60	
24>					
25>		COST OF GAIN DEPENDING ON RATE OF GAIN			
26>					
27>		DAILY GAIN #		COST OF GAIN	
28>		BASE *EST.		SALE WEIGHT	
29>		0.50 0.56		1.18 1.07	
30>		0.75 0.84		0.79 0.72	
31>		1.00 1.12		0.59 0.54	
32>		1.25 1.40		0.47 0.43	
33>		1.50 1.68		0.39 0.36	
34>		1.75 1.96		0.34 0.31	
35>		2.00 2.24		0.30 0.27	
36>		2.25 2.52		0.26 0.24	
37>					
38>DEVELOPED BY DONALD GILL, OKLAHOMA STATE UNIVERSITY, 1982					
39>					
40>NOTE; BASE GAIN ETC. DOES NOT INCLUDE THE EFFECTS OF DAILY FEED,IMPLANTS, OR RUMENSIN. THE EST. GAIN ETC. IS EFFECTED BY THE					
41>ITEMS MARKED BY THE (*). WHEN IMPLEMENTING THESE OPTIONS KEEP IN MIND THAT; IMPLANTS INCREASE GAIN 12%, FEED (.09# GAIN /LB.					
42>FEED), PROTEIN (.15 LB GAIN) AND RUMENSIN (.2 LB /DAY ADDITION). *** FEED MUST BE PRESENT IF THERE IS A 1 FOR EITHER RUMENSIN					
43>OR PROTEIN. SEE YOUR OSU LIVESTOCK ADVISOR.					
44>					
45>EPASTURE/VC MODIFIED MARCH 05,1983					

Appendix 1. Listing of Program Statements for OSU EPASTURE with heading Statements Deleted.

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>N36:/F$(L36/D8*100)/(D6/365)
>M36:/F$(K36/D8*100)/(D6/365)
>L36:/F$(J36*F36/100)-(F36*H36/100)
>K36:/F$(E36*I36/100)-(E36*G36/100)
>J36:/F$@LOOKUP(F36,J5...J14)
>I36:/F$@LOOKUP(E36,J5...J14)
>H36:/F$(D4*D5/100)+F23/(F36/100)
>G36:/F$+D6*A36*C36+(D4*D5/100)/E36*100
>F36:/F$+D5+(D6*B36)
>E36:/F$+D5+(D6*A36)
>D36:/F$+H23/B36
>C36:/F$(H23-H16-H21-(H16+H21*(D22/100)*D6/720)/A36)
>B36:/F$(A36+(.12*A36*D17)+(.2*D18)+(.09*D20)+(.15*D19))
>A36:/F$2.25
>N35:/F$(L35/D8*100)/(D6/365)
>M35:/F$(K35/D8*100)/(D6/365)
>L35:/F$(J35*F35/100)-(F35*H35/100)
>K35:/F$(E35*I35/100)-(E35*G35/100)
>J35:/F$@LOOKUP(F35,J5...J14)
>I35:/F$@LOOKUP(E35,J5...J14)
>H35:/F$(D4*D5/100)+F23/(F35/100)
>G35:/F$+D6*A35*C35+(D4*D5/100)/E35*100
>F35:/F$+D5+(D6*B35)
>E35:/F$+D5+(D6*A35)
>D35:/F$+H23/B35
>C35:/F$(H23-H16-H21-(H16+H21*(D22/100)*D6/720)/A35)
>B35:/F$(A35+(.12*A35*D17)+(.2*D18)+(.09*D20)+(.15*D19))
>A35:/F$2
>N34:/F$(L34/D8*100)/(D6/365)
>M34:/F$(K34/D8*100)/(D6/365)
>L34:/F$(J34*F34/100)-(F34*H34/100)
>K34:/F$(E34*I34/100)-(E34*G34/100)
>J34:/F$@LOOKUP(F34,J5...J14)
>I34:/F$@LOOKUP(E34,J5...J14)
>H34:/F$(D4*D5/100)+F23/(F34/100)
>G34:/F$+D6*A34*C34+(D4*D5/100)/E34*100
>F34:/F$+D5+(D6*B34)
>E34:/F$+D5+(D6*A34)
>D34:/F$+H23/B34
>C34:/F$(H23-H16-H21-(H16+H21*(D22/100)*D6/720)/A34)
>B34:/F$(A34+(.12*A34*D17)+(.2*D18)+(.09*D20)+(.15*D19))
>A34:/F$1.75
>N33:/F$(L33/D8*100)/(D6/365)
>M33:/F$(K33/D8*100)/(D6/365)
>L33:/F$(J33*F33/100)-(F33*H33/100)
>K33:/F$(E33*I33/100)-(E33*G33/100)
>J33:/F$@LOOKUP(F33,J5...J14)
>I33:/F$@LOOKUP(E33,J5...J14)
>H33:/F$(D4*D5/100)+F23/(F33/100)
>G33:/F$+D6*A33*C33+(D4*D5/100)/E33*100
>F33:/F$+D5+(D6*B33)
>E33:/F$+D5+(D6*A33)
>D33:/F$+H23/B33

```



>C33:/F\$(H23-H16-H21-(H16+H21\*(D22/100)\*D6/720)/A33  
 >B33:/F\$(A33+(.12\*A33\*D17)+(.2\*D18)+(.09\*D20)+(.15\*D19))  
 >A33:/F\$1.5  
 >N32:/F\$(L32/D8\*100)/(D6/365)  
 >M32:/F\$(K32/D8\*100)/(D6/365)  
 >L32:/F\$(J32\*F32/100)-(F32\*H32/100)  
 >K32:/F\$(E32\*I32/100)-(E32\*G32/100)  
 >J32:/F\$@LOOKUP(F32,J5...J14  
 >I32:/F\$@LOOKUP(E32,J5...J14  
 >H32:/F\$(D4\*D5/100)+F23/(F32/100)  
 >G32:/F\$+D6\*A32\*C32+(D4\*D5/100)/E32\*100  
 >F32:/F\$+D5+(D6\*B32)  
 >E32:/F\$+D5+(D6\*A32)  
 >D32:/F\$+H23/B32  
 >C32:/F\$(H23-H16-H21-(H16+H21\*(D22/100)\*D6/720)/A32  
 >B32:/F\$(A32+(.12\*A32\*D17)+(.2\*D18)+(.09\*D20)+(.15\*D19))  
 >A32:/F\$1.25  
 >N31:/F\$(L31/D8\*100)/(D6/365)  
 >M31:/F\$(K31/D8\*100)/(D6/365)  
 >L31:/F\$(J31\*F31/100)-(F31\*H31/100)  
 >K31:/F\$(E31\*I31/100)-(E31\*G31/100)  
 >J31:/F\$@LOOKUP(F31,J5...J14  
 >I31:/F\$@LOOKUP(E31,J5...J14  
 >H31:/F\$(D4\*D5/100)+F23/(F31/100)  
 >G31:/F\$+D6\*A31\*C31+(D4\*D5/100)/E31\*100  
 >F31:/F\$+D5+(D6\*B31)  
 >E31:/F\$+D5+(D6\*A31)  
 >D31:/F\$+H23/B31  
 >C31:/F\$(H23-H16-H21-(H16+H21\*(D22/100)\*D6/720)/A31  
 >B31:/F\$(A31+(.12\*A31\*D17)+(.2\*D18)+(.09\*D20)+(.15\*D19))  
 >A31:/F\$1  
 >N30:/F\$(L30/D8\*100)/(D6/365)  
 >M30:/F\$(K30/D8\*100)/(D6/365)  
 >L30:/F\$(J30\*F30/100)-(F30\*H30/100)  
 >K30:/F\$(E30\*I30/100)-(E30\*G30/100)  
 >J30:/F\$@LOOKUP(F30,J5...J14  
 >I30:/F\$@LOOKUP(E30,J5...J14  
 >H30:/F\$(D4\*D5/100)+F23/(F30/100)  
 >G30:/F\$+D6\*A30\*C30+(D4\*D5/100)/E30\*100  
 >F30:/F\$+D5+(D6\*B30)  
 >E30:/F\$+D5+(D6\*A30)  
 >D30:/F\$+H23/B30  
 >C30:/F\$(H23-H16-H21-(H16+H21\*(D22/100)\*D6/720)/A30  
 >B30:/F\$(A30+(.12\*A30\*D17)+(.2\*D18)+(.09\*D20)+(.15\*D19))  
 >A30:/F\$.75  
 >N29:/F\$(L29/D8\*100)/(D6/365)  
 >M29:/F\$(K29/D8\*100)/(D6/365)  
 >L29:/F\$(J29\*F29/100)-(F29\*H29/100)  
 >K29:/F\$(E29\*I29/100)-(E29\*G29/100)  
 >J29:/F\$@LOOKUP(F29,J5...J14  
 >I29:/F\$@LOOKUP(E29,J5...J14  
 >H29:/F\$(D4\*D5/100)+F23/(F29/100)  
 >G29:/F\$+D6\*A29\*C29+(D4\*D5/100)/E29\*100  
 >F29:/F\$+D5+(D6\*B29)  
 >E29:/F\$+D5+(D6\*A29)  
 >D29:/F\$+H23/B29

>C29: /F\$(H23-H16-H21-(H16+H21\*(D22/100)\*D6/720)/A29  
 >B29: /F\$(A29+(.12\*A29\*D17)+(.2\*D18)+(.09\*D20)+(.15\*D19))  
 >A29: /F\$.5  
 >H23: /F\$(F23/D6)  
 >F23: /F\$@SUM(F9...F22  
 >H22: /F\$(F22/D6)  
 >F22: /F\$(@SUM(F10...F21)\*(D22/100)\*(D6/720))  
 >D22: /F\$13.5  
 >H21: /F\$(F21/D6)  
 >F21: /F\$(D20\*D21/100)\*D6  
 >D21: /F\$0  
 >D20: /F\$0  
 >D19: 0  
 >D18: 0  
 >D17: 1  
 >H16: /F\$(F16/D6)  
 >F16: /F\$+D16  
 >D16: /F\$1.25  
 >H15: /F\$(F15/D6)  
 >F15: /F\$+D15  
 >D15: /F\$5  
 >K14: /F\$66  
 >J14: 900  
 >H14: /F\$(F14/D6)  
 >F14: /F\$+D14  
 >D14: /F\$0  
 >K13: /F\$67  
 >J13: 850  
 >H13: /F\$(F13/D6)  
 >F13: /F\$+D13\*D6  
 >D13: /F\$.05  
 >K12: /F\$68  
 >J12: 800  
 >H12: /F\$(F12/D6)  
 >F12: /F\$(D4\*D5/100)\*(D12/100)  
 >D12: /F\$.75  
 >K11: /F\$69  
 >J11: 750  
 >H11: /F\$(F11/D6)  
 >F11: /F\$+D11  
 >D11: /F\$7  
 >K10: /F\$70  
 >J10: 700  
 >H10: /F\$(F10/D6)  
 >F10: /F\$(D5/100)\*D10\*(D6/30)  
 >D10: /F\$2  
 >K9: /F\$71  
 >J9: 650  
 >H9: /F\$(F9/D6)  
 >F9: /F\$(D4\*D5/100)\*(D9/100)\*(D6/360)  
 >D9: /F\$13.5  
 >K8: /F\$72  
 >J8: 600  
 >D8: /F\$75  
 >K7: /F\$73  
 >J7: 550  
 >K6: /F\$74  
 >J6: 500  
 >D6: 140  
 >K5: /F\$75  
 >J5: 450  
 >D5: 450  
 >D4: 75  
 /W1  
 /GOR  
 /GRA  
 /GC9  
 /X>A1:>A1:

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