



# Current Report

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Division of Agricultural Sciences and Natural Resources • Oklahoma State University

## OSU Stocker Planner (NEWPAST)

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This version of the stocker planner is intended to evaluate the purchase of cattle in a stocker cattle and pasture or wheat farming program. Because of the interest in custom grazing, this option allows switching between cost per pound of gain and cost per head per month. In addition, the features of the old pasture program which permitted the user to evaluate the effects of management practices like feeding or implanting have been added. For this program to be useful the user needs to be able to supply or estimate a number of costs with good accuracy.

This program was developed because cattle are often an enterprise within a ranching or wheat farming operation. While stocker cattle are a separable enterprise within many Oklahoma farms and ranches, knowledgeable planning of each cattle purchase is essential as semi-trailer loads of cattle often cost in excess of \$45,000. Analysis has consistently shown that profit or loss from stocker cattle is dependent on buying and selling prices and on rates of gain. There are many options in terms of cattle which should be considered for purchase, ranging from cull cows to baby calves. It is normal that most of the options do not offer much, if any profit opportunity, but if this program is used to work through the many possible types and sexes of cattle available, a potentially profitable purchase may be found.

One of the biggest pitfalls in stocker cattle management is the failure to evaluate a cattle program in terms of length of ownership. Often cattle will appreciate rapidly in value over a short period of time. The profit potential left in these cattle may then deteriorate over a longer period. The most profitable option is usually to sell these cattle and find another class of cattle for replacement. This program should be very useful for identifying these situations.

The numerical inputs that can be changed by the user are marked by an asterisk (\*) in this write up. In the actual Lotus 123 template these cells are unprotected and will appear as a different color or intensity on the screen. The other cells are protected to avoid accidental erasure of equations. To modify the program, see the instructions which accompany your spreadsheet program.

The important inputs will be discussed below one line at a time. The numbers of these items correspond with those on the left hand side of the example output.

1. **Date On Which The Cattle Are Purchased**—To change date press <ALT> and D keys at the same time then enter date in the following format MM/DD/YY. Sale date will automatically be computed based on length of ownership.
2. **CATTLE COST \$ PER CWT and PASTURE PRICING OPTIONS**—This is the actual or expected cost of the cattle in dollars per 100 pounds with all freight and commissions included in the cost. The pasture pricing option is a 0 or a 1 in cell H4. If you want to price pasture on cents per pound of gain use a 0. For pricing in terms of dollars per cwt per month use 1.
3. **PURCHASE WEIGHT LBS**—The average purchase weight in pounds of the cattle (same basis as #2 above).
4. **CATTLE COST \$ PER HEAD**—This is a computed item which the program calculates from items 2 and 3. It is a protected cell.
5. **DAYS PASTURED**—Input the expected number of days the cattle are to be grazed (this will also be the total period of ownership).
6. **EQUITY IN \$ PER HEAD**—This is the dollars per head of financing which will not be charged interest in the budgets below. A high amount will reduce your interest cost.
7. **CATTLE INTEREST RATE (%)**—The interest rate in percent on the cattle purchase. In the budget, this interest will be charged for the total days pastured. Also note item 18 which is interest on operating capital and assumes usage for only half of the ownership period. To the right of the input figure the program will compute the total interest cost and the cost per day for this item.
8. **PASTURE COST OPTION (\$ PER POUND OF GAIN [1] or \$ /CWT PER MONTH [0])**—(1) Pasture cost in \$ per pound of gain. (2) Pasture cost in \$ per cwt per month. These input values must be coordinated with the switch cell H4 which selects the pricing option. Regardless of which way pasture cost are input, this is one of the most

critical and, for many, one of the most difficult to determine. It is suggested, in a wheat grazing operation where a number of costs are hard to apportion to grain or to cattle, that the portion of the costs which can be attributed to cattle, based on history or experience, be divided by expected pounds of gain to determine this figure. This technique will allow the user to experiment to determine which sex, weight class, or type of cattle might have the greatest profit potential. Always note the total pasture cost and the cost per day which are being generated to the right of your input value. You can use the power of your computer to estimate cost per pound of gain if you have a good idea of what the total cost figure should be.

9. **MEDICAL COST / HEAD (\$)**—Input the total cost in dollars per head for medications, wormers, implants, and the costs of treatment for sick cattle. This input item is highly dependent on the class and origin of the cattle plus the time of the year and the skill of the cattleman.
10. **DEATH LOSS (%)**—Expected death loss cost to the left of the input value assumes that the cattle die on the day of purchase after the medical costs have been added to the cattle cost. Be sure to use a death loss figure at least as high as expected. If the cattle are run for extended periods of time, it may be wise to increase the figure to account for feed expenses which occur on cattle dying late in the ownership period. Note the total dollar amount to the right of your input.
11. **PICKUP & EQUIPMENT/HEAD (\$)**—Cost on a dollar per head basis.
12. **MANAGEMENT FEE (\$ / HEAD)**—Management fee on a per head basis. This fee should be scaled for length of ownership and other factors.
13. **LABOR COST (\$ / HEAD / DAY)**—Labor cost per head per day.
14. **BEEF CHECK OFF (\$)**—The beef check off fee (\$1 per head).
15. **OPTIONS /HEDGE COST (\$/HEAD)**—A dollar amount per head for hedging or options cost. If the cattle are contracted and the cattleman is paid a deposit, this amount may be added as a negative number (i.e. -25). This amount would then decrease operating interest costs. Be sure to reduce the sale price of the cattle to reflect the deposit received.
16. **MARKETING COST (\$) PER HEAD\***—Commissions or fees paid to market the cattle. This wording is not protected and may be changed to state any other cost which is entered on an amount per head basis.
17. **FREIGHT (\$) PER HEAD\***—A dollar amount per head. This wording, like the previous item, is not protected and may also be changed.
18. **FEED COST (\$) PER HEAD**—Input the total non-pasture feed cost for the animal on a dollar amount per head.
19. **OPERATING CAPITAL INTEREST**—Interest is figured on one half the total costs, except the original cattle cost for the total period of ownership. In most cases this method will give a good estimate of operating capital interest. This formula will underestimate interest if the

costs were prepaid at the start of the ownership period.

20. **PERFORMANCE OPTIONS**—This particular spreadsheet allows the user to set an expected daily gain for an entire grazing period in cell G27. It is then possible to study the effect of options such as feeding or implants on the rate of gain and economic performance. For example, if an implant is present (1 in cell C30), gain (Option column) will increase 12 percent over the expected. If feed is fed, more than one item must be filled in. First, how many days are the animals going to be fed (DAYS FED). Second, how much feed per day (POUNDS/DAY) will be fed. Third, was the feed a protein supplement or low protein energy supplement (PROTEIN SUPL). Finally, does the feed contain the proper dose of an ionophore (IONOPHORE). In the case of the last two items you indicate 0 for no and 1 for yes. The following prediction equations are used in the program.
  - A Response to energy feed = 0.09 pound gain/pounds feed
  - B One time response to high protein feed = 0.32 pound gain per day
  - C Response to protein supplement = 0.09 pound gain/pounds feed per day
  - D Response to ionophore at the proper level = 0.15-0.20 pounds per day
  - E Response to implants increase gain 12%

**Example 1:** Summer grass only. Feed 1 pound of high protein cube with ionophore. (0.32 one time protein response + 0.09 feed response + 0.20 ionophore response = 0.61 pounds per day)

**Example 2:** Summer grass only. Feed 2 pounds per day of high protein cube with an ionophore. (0.32 one time protein response + (2 X 0.09) 0.18 feed response + 0.20 ionophore response = 0.70 pounds per day)

**Example 3:** Feed 4 pounds of energy feed per day without an ionophore. (4 X 0.09 energy feed response = 0.36 pounds per day)
21. **PROJECTED DAILY GAIN** —The profit projections are made on an expected gain that the user must supply. Gain should be stated on a pay-to-pay basis. To the right of this value is a place for the Optional gain.
22. **TOTAL GAIN POUNDS**—Non-user input showing the calculated pounds of gain.
23. **SELLING WEIGHT**—Non-user input showing the calculated selling weight on a pay basis.
24. **SELLING PRICE \$ PER CWT**—Non-user input. Selling price is obtained by the program from the weight and price table in the lower left corner of the illustration. Items 30 and 31 are critical for this table to be correct.
25. **COST OF GAIN \$/CWT**—Non-user input. These values include all entered cost items and will represent a true pay-to-pay cost of gain.
26. **FEED ONLY COST OF GAIN**—Non-user input. Feed only cost of gain includes only the cost of pasture (line 7) and feed (line 17). This cost does not include a number of very important other costs.
27. **BREAKEVEN SELLING PRICE**—Non-user input. This

calculation represents the price which must be received to recover all of the input cost items. Cattle selling for less will lose money.

28. **PROFIT PER HEAD**—Non-user input. Calculated profit per head.
29. **TOTAL PROFIT**—Non-user input. The result of multiplying the profit per head by the number of cattle owned (see 30 right side).
30. **EXPECTED VALUE OF GAIN—>> \$55.00\* TOTAL COST FOR—>> 100\* HEAD**—Two important inputs are on this line. The second one (the number of cattle) is easy. However, the first one “EXPECTED VALUE OF GAIN” is more complex. This figure represents the price in dollars per hundred pounds that the expected cattle market will be paying for added weight gain. For example, a given class of cattle weighing 500 pounds were selling for \$70 per cwt or \$350 per head and the same class of cattle weighing 600 pounds were selling for \$66 per cwt or \$396 a head, it would then appear that 100 pounds of added gain was worth \$396 - \$350 or \$46 per cwt. After careful evaluations of the price spreads between different weights of the same class of cattle, the user should be able to estimate the value of gain. This figure is always changing. Feed costs and optimism or pessimism about the market have powerful influences on

the value of gain. Item number 31, EXPECTED SELLING PRICE for the 750 pound animal, is related to this value.

31. **EXPECTED SELLING PRICE FOR THE 750 POUND ANIMAL**—Expected selling price for a 750 pound animal. The weight price chart is calculated by adding or subtracting the value of gain (30) to the value placed on the 750 pound animal. This is done because a 750 pound steer represents the value of a steer in the middle of the weight range of the feeder cattle futures contract. When entering this value be sure to use a realistic basis that will represent the likely selling value of the cattle at your projected selling time.
32. **TOTAL MONEY NEEDED**—Set select switch at cell C46 to 0 for the expected and 1 for the optional gain. At the lower right is a summary of the cash needed based on the number of cattle purchased and the option selected.

There are other OSU programs which may aid you in special situations for which this program was not designed. PASTUREW is a similar program designed for wheat pasture. Feedlot calculator programs (FLCALC2) and (BEFLCAL2) are similar in format to this one if you wish to consider custom cattle feeding as a marketing option.

**OKLAHOMA STATE UNIVERSITY STOCKER PLANNER (PASTURE COST GAIN OR WT. BASIS).**

1	*** PRESS ALT D TO ENTER DATE ***		STARTING DATE 11/01/89*	
2	CATTLE COST \$ PER CWT	\$100 00*	PASTURE PRICING OPTIONS	0*
3	PURCHASE WEIGHT LBS	450*	COST / POUND OF GAIN=0	
4	CATTLE COST \$ PER HEAD	\$450 00	COST IN \$ PER CWT PER MONTH=1	
5	DAYS PASTURED	130*	COSTS ON A TOTAL OR DAILY BASIS	
		*****	TOTAL	DAILY
6	EQUITY IN \$ PER HEAD	\$0 00*		
7	CATTLE INTEREST RATE (%)	13 00*	\$21 13	\$0 16
8	PASTURE COST OPTION	\$0 30*	\$58 50	\$0 45
9	MEDICAL COST / HEAD (\$)	\$8 00*	\$8 00	\$0 06
10	DEATH LOSS (%)	2 50*	\$11 52	\$0 09
11	PICKUP & EQUIPMENT/HEAD (\$)	\$1 50*	\$1 50	\$0 01
12	MANAGEMENT FEE (\$ / HEAD)	\$0 00*	\$0 00	\$0 00
13	LABOR COST (\$) / HEAD / DAY	\$0 05*	\$6 50	\$0 05
14	BEEF CHECK OFF (\$)	\$1 00*	\$1 00	\$0 01
15	OPTIONS /HEDGE COST(\$/HEAD)	\$0 00*	\$0 00	\$0 00
16	MARKETING COST (\$) PER HEAD	\$7 00*	\$7 00	\$0 05
17	FREIGHT (\$) PER HEAD	\$2 65*	\$2 65	\$0 02
18	FEED COST (\$) PER HEAD	\$8 00*	\$8 00	\$0 06
19	OPERATING CAPITAL INTEREST	13 00*	\$2 46	\$0 02
\$ PER HEAD AT END		\$578 25	TOTAL \$	\$128 25
				\$0 99

20	PERFORMANCE OPTIONS	SELLING DATE-->>	03/11/90	EXPECTED	OPTION
21	FOR ITEMS WITH **		PROJECTED DAILY GAIN -->>>	1 50*	1 50
22	0=NO, 1=YES,	0*	TOTAL GAIN POUNDS	195	195
23	IMPLANT COST	\$0 00*	SELLING WEIGHT	645	645
24	IMPLANT PRESENT **	0*	SELLING PRICE \$ PER CWT	88 28	88 28
25	DAYS FED	0*	COST OF GAIN \$ / CWT	65 77	65 77
26	POUNDS / DAY	0 00*	FEED ONLY COST OF GAIN	34 10	34 10
27	FEED COST / CWT	\$0 00*	BREAKEVEN SELLING PRICE	89 65	89 65
28	PROTEIN SUPL **	0*	PROFIT PER HEAD	-8 83	-8 83
29	IONOPHORE **	0*	TOTAL PROFIT	-971 73	-971 73

30	EXPECTED VALUE OF GAIN-->>	\$50 00*	TOTAL COST FOR-->>	110* HEAD
PRICE STRUCTURE AT SALE WTS				
WEIGHT\$ PER CWT	CASH NEEDED		TOTAL CATTLE COST	\$49500
350	\$120 00	FIGURED ON	TOTAL CATTLE INTEREST	2323 75
400	\$111 25	EXPECTED=0	GAIN COST (PASTURE ONLY)	6435 00
450	\$104 44	OPTION =1	MEDICAL COST	880 00
500	\$99 00		DEATH LOSS COST	1266 79
550	\$94 55	0* <SELECT	PICKUP & EQUIPMENT	165 00
600	\$90 83		LABOR COST	715 00
650	\$87 69		MANAGEMENT FEE	0 00
31	700	\$85 00*	BEEF CHECK OFF	110 00
	750	\$82 67	OPTIONS /HEDGE COST	0 00
	800	\$80 63	MARKETING COSTS	770 00
	850	\$78 82	FREIGHT	291 50
	900	\$77 22	FEED & MINERAL & IMPLANTS	880 00
	950	\$75 79	OPERATING CAPITAL INTEREST	270 24
32			TOTAL MONEY NEEDED	\$63607 27

NOTE PASTURE PRICING OPTIONS PERFORMANCE OPTIONS INCLUDE THE FOLLOWING INCREASES IMPLANT 12%, IONOPHORE 2 LB GAIN, PROTEIN 31 LB GAIN, FEED 09 LB GAIN  
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