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# OSU

# Current Report

Cooperative Extension Service • Division of Agriculture • Oklahoma State University

## OSU Stocker Planner
## (Pasturew)

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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. 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 should be a useful companion to the Microcostfinder which is also available from Oklahoma State University.

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 are costing in excess of $35,000. 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 will only deteriorate over a longer period. Thus, the most profitable option is usually to sell these cattle and find another class of cattle for replacement. This program should be very useful to make these types of evaluations.

The numerical inputs that can be changed by the user are marked by an asterisk (*) in the example 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 locked. To modify this 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. CATTLE COST $ PER CWT. This is the actual or expected cost of the cattle in dollars per 100 pounds with all freight and commissions included in the cost.

2. PURCHASE WEIGHT LBS. The average purchase weight of the cattle in pounds (same basis as #1 above).

3. CATTLE COST $ PER HEAD This is a computed item which the program calculates from items 1 and 2. It is a locked cell.

4. DAYS PASTURED Input the expected number of days the cattle are to be grazed (this will also be the total period of ownership).

5. 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.

6. 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.

7. PASTURE COST ($ /LB GAIN) (1) Pasture cost in $ per pound of gain. This is one of the most critical inputs 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 use this program 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, for example, you have a good idea of what the total cost figure should be.

8. MEDICAL COST / HEAD ($) Input the total cost in dollars per head for medications, wormers, implants, and the costs of treatment of 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.

9. 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 and 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.

10. PICKUP & EQUIPMENT/HEAD ($) Cost on a dollar per head basis.

11. MANAGEMENT FEE ($ / HEAD) Management fee on a per head basis. This fee should be scaled for length of ownership and other factors.

12. LABOR COST ($) / HEAD / DAY Labor cost per head per day.

13. BEEF CHECK OFF ($) The beef check off fee ($1 per head).

14. 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 cost. Be sure and reduce the sale price of the cattle to reflect the deposit received.

15. MARKETING COST ($) PER HEAD* Commissions or fees paid to market the cattle. This wording is not locked and may be changed to state any other cost which is entered amount per head basis.

16. FREIGHT ($) PER HEAD* A dollar amount per head. This wording, like the previous one, is not locked and may also be changed.

17. FEED COST ($) PER HEAD Input the total non-pasture feed cost for the animal on an dollar amount per head.

18. 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.

19. 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 left or right of this value is a place for lower and higher rates of gain. The purpose of these, if realistically set, is the opportunity to look at a worst case/best case budget. Note that the pasture cost is always figured on the total cost shown (item 7 in the illustration). Thus, the total pasture cost is divided by less gain if the cattle gain less than expected, and the reverse if they gain more than expected.

20. TOTAL GAIN POUNDS Non-user input showing the calculated pounds of gain.

21. SELLING WEIGHT Non-user input showing the calculated selling weight on a pay basis.

22. 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 28 and 30 are critical for this table to be correct.

23. 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.

24. 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.

25. 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.

26. PROFIT PER HEAD Non-user input. Calculated profit per head.

27. TOTAL PROFIT Non-user input. The result of multiplying the profit per head by (the number of cattle owned (see 28 right side).

28. EXPECTED VALUE OF GAIN--->> $50.00* TOTAL COST FOR-->> 250* HEAD Two important inputs

OKLAHOMA STATE UNIVERSITY STOCKER PLANNER (PASTURE COST ON A GAIN BASIS)
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| | | | COSTS ON A TOTAL OR DAILY BASIS | |
|---|---|---|---|---|
| | | | TOTAL | DAILY |
| 1 CATTLE COST $ PER CWT. | $110.00* | | | |
| 2 PURCHASE WEIGHT LBS. | 200* | | | |
| 3 CATTLE COST $ PER HEAD | $220.00 | | | |
| 4 DAYS PASTURED | 300* | | ------------------- | |
| 5 EQUITY IN $ PER HEAD | $65.00* | | | |
| 6 CATTLE INTEREST RATE % | 12.00* | | $15.50 | $0.05 |
| 7 PASTURE COST ($ /LB GAIN) (1 | $0.20* | | $90.00 | $0.30 |
| 8 MEDICAL COST / HEAD ($) | $8.00* | | $8.00 | $0.03 |
| 9 DEATH LOSS (%) | 4.00* | | $9.12 | $0.03 |
| 10 PICKUP & EQUIPMENT/HEAD ($) | $4.50* | | $4.50 | $0.02 |
| 11 MANAGEMENT FEE ($ / HEAD) | $25.00* | | $25.00 | $0.08 |
| 12 LABOR COST ($) / HEAD / DAY | $0.05* | | $15.00 | $0.05 |
| 13 BEEF CHECK OFF ($) | $1.00* | | $1.00 | $0.00 |
| 14 OPTIONS /HEDGE COST($/HEAD) | $15.00* | | $15.00 | $0.05 |
| 15 MARKETING COST ($) PER HEAD* | $0.00* | | $0.00 | $0.00 |
| 16 FREIGHT ($) PER HEAD* | $0.00* | | $0.00 | $0.00 |
| 17 FEED COST ($) PER HEAD | $22.80* | | $22.80 | $0.08 |
| 18 OPERATING CAPITAL INTEREST | 12.00* | | $9.52 | $0.03 |

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    $ PER HEAD AT END  $435.44        TOTAL $   $215.44     $0.72
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| | | LOW | EXPECTED | HIGH |
|---|---|---|---|---|
| 19 PROJECTED DAILY GAIN --->>> | | 1.3* | 1.5* | 1.7* |
| 20 TOTAL GAIN POUNDS | | 390 | 450 | 510 |
| 21 SELLING WEIGHT | | 590 | 650 | 710 |
| 22 SELLING PRICE $ PER CWT | | 75.53 | 71.60 | 70.06 |
| 23 COST OF GAIN $ / CWT | | 55.24 | 47.88 | 42.24 |
| 24 FEED ONLY COST OF GAIN | | 28.92 | 25.07 | 22.12 |
| 25 BREAKEVEN SELLING PRICE | | 73.80 | 66.99 | 61.33 |
| 26 PROFIT PER HEAD | | 10.17 | 29.96 | 61.96 |
| 27 TOTAL PROFIT | | 2542.48 | 7489.75 | 15491.18 |

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28 EXPECTED VALUE OF GAIN--->>  $50.00*     TOTAL COST FOR-->>      250* HEAD

PRICE STRUCTURE AT SALE WTS

| 29 WEIGHT | $ PER CWT | | | |
|---|---|---|---|---|
| | | | TOTAL CATTLE COST | 55000 |
| 300 | $96.80 | | TOTAL CATTLE INTEREST | 3875.00 |
| 350 | $90.11 | | GAIN COST (PASTURE ONLY) | 22500.00 |
| 400 | $85.10 | | MEDICAL COST | 2000.00 |
| 450 | $81.20 | | DEATH LOSS COST | 2280.00 |
| 500 | $78.08 | | PICKUP & EQUIPMENT | 1125.00 |
| 550 | $75.53 | | LABOR COST | 3750.00 |
| 600 | $73.40 | | MANAGEMENT FEE | 6250.00 |
| | | | BEEF CHECK OFF | 250.00 |
| 30 650 | $71.60 | <-EXPT OR FUTURES | OPTIONS /HEDGE COST | 3750.00 |
| 700 | $70.06 | PLUS OR MINUS | MARKETING COSTS | 0.00 |
| 750 | $68.72 | BASIS. | FREIGHT | 0.00 |
| 800 | $67.55 | | FEED & MINERAL | 5700.00 |
| 850 | $66.52 | | OPERATING CAPITAL INTEREST | 2380.25 |
| 900 | $65.60 | | ----------------------------------- | |
| 31 | | | TOTAL MONEY NEEDED | 108860.2 |

(1) PASTURE COST IS APPLIED ONLY TO EXPECTED GAIN. LOWER OR HIGHER
    GAINS USE THE SAME TOTAL PASTURE COST SHOWN IN CELL F10.
DEVELOPED BY DONALD GILL, OKLAHOMA STATE UNIVERSITY 1987;

are on this line. The second one the number of cattle) is easy. However, the first one "EXPECTED VALUE OF GAIN" is more complex. What this figure represents is the price in dollars per hundred pounds that the expected cattle market will be paying for added weight gain. If, for purposes of illustration, 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, then it would appear that 100 pounds of added gain was worth $396 - $350 or $46 per cwt. After careful evaluations of the price differences of 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 30, EXPECTED SELLING PRICE for the 650 pound animal, is related to this value.

30. EXPECTED SELLING PRICE FOR THE 650 POUND ANIMAL Expected selling price for a 650 pound animal. The weight price chart is calculated by adding or subtracting the value of gain (28) to the value placed on the 650 pound animal. This is done because a 650 pound steer represents the value of the feeder cattle futures contract. When entering this value be sure and use a realistic basis that will represent the likely selling value of the cattle at your projected selling time.

31. TOTAL MONEY NEEDED Non-user input. At the lower right is a summary of the cash needed based on the number of cattle purchased. The pasture cost is calculated by using the EXPECTED gain times the stated pasture cost times the number of head.

There are other OSU programs which may aid you in special situations for which this program was not designed. Pasture is a similar program which will aid you in determining the value of grain or protein supplements for cattle on grass. Feedlot Calculator (FLCALC) is a budget in a similar format to this one if you wish to consider custom cattle feeding as a marketing option.

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