

Standardized Performance Analysis (SPA)

Part 2: What Do the Financial Numbers Mean?

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Abstract

Standardized Performance Analysis (SPA) is a systematic approach to tracking beef cattle production (SPA-P) and finances (SPA-F). Utilizing a standardized method for calculating and evaluating various production and financial measures on a beef cattle operation is essential for consistent results. Knowing what the numbers mean and how they were obtained is necessary when comparing operations of similar size and locale.

For most businesses, it is unthinkable to wait until the end of the year to determine if there is to be a profit. In the past, and yet today, some ranches have been operated in this fashion. Monitoring expenses and then justifying them with profit in mind is essential for most producers to survive when their entire income is derived from the ranch. However, for some producers profit may not be the most important goal. Therefore, monitoring and analyzing the cost of production for tax reasons, or other reasons which may be important to the producer, are important.

Fifteen important financial measures are examined in detail in this article with calculations, interpretations and limitations of each financial measure discussed. This article is not intended to turn the veterinarian into an accountant, but rather to provide information which will assist in making profitable production based decisions.

Developing a production and financial consulting practice can be difficult. The use of a "Cowboy College" is discussed to show veterinarians how they can become involved with clients in production based consultation.

Introduction

This is the second part of a two part series on Stan-

standardized Performance Analysis (SPA) calculations and interpretations. SPA is a systematic approach to tracking beef cattle production (SPA-P), which was discussed in Part 1 of this series¹, and finances (SPA-F) which will be discussed in this article.

There are a number of reasons for analyzing financial performance.^{2,3,4} The IRM - SPA Cow/Calf Handbook³ lists several reasons for financial evaluation, four of which are listed in Table 1. Financial analysis of how well the ranch is doing in relation to the owner's production goals is of high importance. Part one of this series detailed the calculations and limitations of various production measures on the cow/calf ranch. Knowing what the numbers mean and how they were obtained is essential before assignment of economic parameters.

Table 1. Reasons for Analyzing Ranch Financial Performance.

1. To determine how well the business is doing relative to specific goals or chosen standards.
2. To help establish competitiveness or short or long term planning.
3. To gain satisfaction.
4. To identify opportunities for change.

Knowing the cost of production is vital to profitability. For most businesses, waiting until the end of the year to determine if there is a profit is unthinkable. In the past, and yet today, some ranches have been operated in this fashion. Monitoring expenses and then justifying them with profit in mind is essential for most producers to survive, especially when their entire income is derived from the ranch. However, for some producers profit may not be the most important goal. Therefore, monitoring and analyzing the cost of production

for tax reasons, or other reasons of interest to the producer, are very important.

This article is not designed to make the veterinarian a trained accountant, but is intended to help with production based decisions. To assist in making production or health recommendations, we need to know the financial aspects of the operation we are consulting with. For example, culling decisions are often made at the chute as cattle are being worked. Lack of information on costs or investment per breeding female leaves you, the consultant, guessing about what to do with the animal in the chute; often times the wrong decision is made. The beef cattle veterinarian working with cow-calf producers can help clients reach their goals by implementing a standardized performance financial analysis.

Until recently Cattle Fax has been the primary source for the SPA state and national averages. At this time, Dr. Jim McGrann at Texas A & M University is serving as the main resource⁴. Table 2 lists some of the various financial measures on a national average.

This article will examine some of the financial measures that are important in evaluating the financial success of an operation. The following measures were taken from the IRM-SPA Calf Handbook³.

I. Marketing Information and Payweight Cattle Price

Computation:

$$\text{Heifer price} = \frac{\text{Value of weaned heifers}}{\text{Total lbs of heifers weaned}} \times 100$$

How, when & where sold _____

Steer/bull price=

$$\frac{\text{Value of steer or bull calves at weaning}}{\text{Total lbs of weaned steer or bull calves}} \times 100$$

How, when & where sold _____

Cull cow payweight price=

$$\frac{\text{Total net value of cull cow sales}}{\text{Total payweight (lbs) sales of cull cows}} \times 100$$

How, when & where sold _____

Cull bull payweight price=

$$\frac{\text{Total net value of cull bull sales}}{\text{Total payweight (lbs) sales of cull bulls}} \times 100$$

How, when & where sold _____

Interpretation:

The purpose of this information is to describe the marketing and pricing methods and to show the average net payweight prices for calves and culls. These cattle prices should be based on actual or estimated net payweight and payweight price required to establish a gross return for the cow herd. Additionally, this information can be a useful management tool in interpreting the relative market value of calves at weaning as well as interpreting the relative market value of cull cows and bulls by different marketing methods.

Limitations:

1. This is inadequate information to describe the "product" (calves and culls) produced and to make a compar-

Table 2. National Cow-Calf SPA Summary of Financial Measures by Size of Herd: 1990-1997

Financial Measure:	Size of Herd (Breeding Cows - 617 Herds)						
	1-49	50-99	100-199	200-299	300-499	500-999	1000+
Total Investment / Breeding Cow (cost basis)	\$2,516.42	\$2,523.32	\$2,150.48	\$2,277.15	\$2,064.70	\$1,809.96	\$1,433.15
Percent Return on Assets (cost basis)	1.05%	5.08%	0.30%	5.04%	2.12%	4.97%	9.66%
Total Investment / Breeding Cow (Mkt value)	\$3,754.86	\$3,900.45	\$3,311.10	\$3,284.69	\$3,036.01	\$2,958.85	\$3,684.02
Percent Return on Assets (Mkt value)	0.44%	3.17%	1.51%	3.83%	1.60%	2.68%	3.97%
Raised/Purchased Feed Cost per Cow	\$121.62	\$139.91	\$135.12	\$107.39	\$100.55	\$81.51	\$79.01
Grazing Cost per Cow	\$98.64	\$94.25	\$98.05	\$74.07	\$73.13	\$90.43	\$66.86
Total Cost Before Noncalf Revenue Adj. / cow	\$470.19	\$417.79	\$430.19	\$400.48	\$401.58	\$385.85	\$336.65
Total Cost Before Noncalf Revenue / cwt.	\$121.57	\$ 91.73	\$100.09	\$86.30	\$ 94.08	\$85.67	\$83.46
Total Cost Noncalf Revenue Adj. / cow	\$409.88	\$346.60	\$370.80	\$344.78	\$351.09	\$333.98	\$281.74
Total Cost Noncalf Revenue / cwt.	\$106.70	\$76.75	\$85.96	\$74.43	\$79.44	\$74.64	\$69.85
Net Income After Withdrawals / cow	-\$41.09	\$40.13	-\$17.87	\$54.16	\$11.95	\$33.13	\$66.35
Net Income After Withdrawals / cwt.	-\$18.77	\$7.44	-\$6.70	\$9.83	\$8.33	\$7.19	\$14.75
Economic Total Cost Noncalf Rev Adj / cow	\$518.93	\$443.93	\$458.30	\$459.05	\$445.03	\$426.85	\$375.15
Economic Total Cost Noncalf Rev Adj / cwt.	\$133.99	\$99.14	\$106.29	\$98.21	\$101.81	\$95.77	\$93.20
Economic Net Income After Withdrawals / cow	-\$150.14	-\$57.20	-\$105.37	-\$60.11	-\$81.99	-\$59.73	-\$28.08
Economic Net Income After Withdrawals / cwt.	-\$44.06	-\$15.25	-\$27.09	-\$13.95	-\$19.03	-\$13.95	-\$8.61

Measures are calculated on a pretax basis

Source: Dr. Jim McGrann, Texas A & M University, College Station, TX. Used with permission.

tive analysis of prices. To do so would require details on USDA grade, cattle condition and sales condition. This is too extensive a data requirement for most producers at this time. However, comparisons between years can be meaningful within the same operation.

2. The dominant method of marketing and pricing does not adequately reflect the situation when a variety of methods are used.

3. Value at weaning for retained ownership is estimated if the calves are not actually sold. However, producers must estimate the value per pound to calculate a gross revenue estimate for the cow herd and to arrive at a correct figure for the balance sheet and income statement value of inventory change. Consistent valuation procedures should provide accurate comparative values over time.

4. Price differences between farms or ranches may be due to differences in frame score, breed type, body condition, or method of marketing. It is difficult to isolate the specific factor(s) that reflect(s) these differences in comparing operations.

II. Investment Per Breeding Cow

Computation:

Investment per breeding cow=

(Average enterprise investment / Number of exposed females at the beginning of the fiscal year)

Six asset type investment levels are calculated from the balance sheet values per breeding cow:

1. Current assets
2. Livestock
3. Machinery and equipment
4. Other non-current assets
5. Real estate - land and improvements
6. Total investments

To calculate the value per breeding cow of each type of investment for the enterprise, divide the average asset value from the beginning and ending balance sheet by the number of breeding cows at the beginning of the fiscal year.

Interpretation:

This is the total investment per breeding cow in assets that support the cow-calf enterprise. This value is calculated for both the cost basis evaluation, as well as the fair market valuation. For a specific business, cost basis is more accurate. Fair market valuation is necessary to have a reasonable basis for comparison between farm or ranch businesses. Differences between cost and market valuation can be especially large for real estate investment, depending on the time of purchase. Investment per breeding cow is a good measure of the capital investment intensity for the enterprise and production system.

Limitations:

1. The difference in investment per breeding cow and production system must be recognized when comparative analysis is made.

2. Values are calculated for both cost basis and fair market value. The measure is sensitive to the value placed on assets and the accuracy of breeding cow numbers.

III. Debt Per Breeding Cow

Computation:

Debt per breeding cow=

(Total cow-calf enterprise liabilities/Number of breeding cows)

The debt value is taken from the balance sheet. It is an average of the beginning and ending balance sheet total liabilities allocated to the cow-calf enterprise.

Interpretation:

The amount of debt per breeding cow is a good measure of the debt position and potential risk bearing ability. It is a useful value over time. This value reflects both the amount of liabilities and the external capital commitment per breeding cow. However, a cash commitment to service debt is dependent on the debt structure and interest rate. When used in conjunction with investment per breeding cow, this figure can also reflect percent ownership.

Limitations:

1. Both debt and debt structure, as well as the associated debt interest cost, are quite variable between farms and ranches.

2. Short term operating debt can vary significantly from year to year due to debt carryover.

3. This is an excellent measure for an individual farm or ranch business, but it is not meaningful when comparing different operations due to the number of assets owned by an operation at the start of the business.

IV. Equity to Assets or Percent Equity

Computation:

Equity to assets or percent equity=

[(Total investment per breeding cow - Total debt per breeding cow)/Total investment per breeding cow] X 100]

This measure is calculated for both the cost and market value of the investment per breeding cow.

Interpretation:

This measure reflects the financial position in terms of the debt assigned to the cow-calf enterprise. The higher the value the more the capital is supplied by

the owner(s) and less by the creditor(s). This is a solvency measure that is used in evaluation of the financial position for a total farm or ranch business.

For an individual firm, it is important to monitor this measure over time as a trend indicator of changing debt position.

Limitations:

1. This measure is greatly influenced by the value placed on assets.
2. The total farm or ranch equity position must be known before judgement can be made as to riskiness of the debt level indicated by percent ownership.

V. Total Raised/Purchased Feed Cost

Computation:

Total raised/Purchased feed cost per breeding cow=

$$\frac{[(\text{Purchased feed} + \text{Feed production expenses} + \text{Accrual feed inventory adjustments} + \text{Accrual adjustments for feed payable}) / \text{Number of breeding cows}]$$

Feed production expenses should include machinery, equipment, and other expenses associated with raised feed production.

Interpretation:

Raised/purchased feed costs are major production costs for the cow-calf enterprise. Costs differ between production systems and regions. This measure is useful to control costs and to compare alternative systems on the same farm or ranch. This measure can also be useful in comparing operations with similar production systems and resources.

For the financial cost, the actual accounting production costs are used to determine the raised/purchased feed cost. For the economic cost, opportunity cost or net potential sales value at the beginning of the feeding season is used to price the raised purchased feed.

The raised/purchased feed cost per cwt. of weaned calf provides information as to the significance of the feed cost as a part of calf unit production cost. Knowing this cost is valuable when making marketing decisions about cull cows as it relates to timeliness of marketing.

Limitations:

1. Including all the relevant raised/purchased feed production and purchases requires accurate identification of costs. Allocation of machinery costs for production of raised/purchased feed is an example that illustrates the difficulty involved.
2. It is difficult to compare raised/purchased feed costs between farm or ranch operations because of the differences in production systems and production regions.
3. If the user is not consistent in the application of the cost or market value of feed between years, it may make comparative analysis more difficult.

VI. Total Grazing Cost

Computation:

Total grazing cost per breeding cow=

$$\frac{[(\text{Grazing related expenses} + \text{Machinery, equipment and other expenses for grazing land maintenance} + \text{Real estate costs}) / \text{Number of breeding cows}]$$

Total grazing cost per cwt of weaned calf=

$$\frac{[(\text{Total grazing cost per breeding cow} / \text{Lbs of weaned calf production per breeding cow}) \times 100]$$

Real estate costs on a financial basis include actual lease expenses paid, real estate mortgage interest payments, depreciation and maintenance of improvements, and property taxes.

Real estate costs on an economic basis include actual lease expenses paid plus the cash lease equivalent rate on owned real estate (or opportunity cost) plus the real estate maintenance cost paid by the tenant under a cash lease. When calculating the economic opportunity cost of grazing, adjustments to financial expenses (property tax, maintenance and depreciation of improvements, and mortgage interest) must be made to prevent double accounting for items.

Interpretation:

Grazing costs are major production costs for the cow-calf enterprise. This measure is useful in controlling costs and comparing alternative systems on the same farm or ranch. It can be useful in comparing operations with similar production systems and resources.

Limitations:

1. Including all the relevant grazing costs requires accurate identification of costs. Allocation of machinery cost to grazing land is an example.
2. It is difficult to compare financial grazing costs between farm or ranch operations because of the differences in production systems, production regions, and mortgage interest paid on owned real estate.
3. Determining the opportunity cost of the real estate resources is always somewhat subjective. Consistency in the procedure for determining cash lease rates from year to year is important. Using the cash lease rate for owned real estate is the best approximation of "economic" real estate cost, because cash leasing opportunities are available in most grazing regions.

VII. Gross Enterprise Accrual Revenue

Computation:

Gross enterprise accrual revenue per breeding cow=

$$(\text{Raised weaned calf sales} + \text{Value of calf inventory change} + \text{Base value of the quantity transferred into raised replacement stock} + \text{Gain or loss on sale of culled replacement stock and culled breeding stock} +$$

Increase in base value of the quantity transferred into raised breeding stock + Non-cash transfers of weaned calves out of the enterprise + Other revenue + Farm or ranch product consumption / Number of breeding cows

Gross accrual revenue per cwt of weaned calf =

$$\frac{[(\text{Gross enterprise accrual revenue per breeding cow} / \text{Lbs of weaned calf production per breeding cow}) \times 100]}{100}$$

Interpretation:

This is the total value of sales, inventory change, and capital asset adjustments that reflects the gross revenue generated by the cow-calf enterprise. This value represents both the cash sales plus the non-cash value changes. An accurate inventory of raised and purchased breeding cattle will be required for an adequate measure of capital gain or loss. These inventory values are also necessary for the Internal Revenue Service. A consistent approach must be followed in valuation and depreciation of replacement stock.

Limitations:

1. These values may become distorted with large decreases or increases in breeding cows.
2. The gross revenue will vary somewhat, depending on the accounting procedures used for raised breeding stock.

VIII. Total Cow-Calf Enterprise Operating Cost

Computation:

Total cow-calf enterprise operating costs per breeding cow =

$$\frac{[(\text{Total direct operating costs} + \text{Total indirect operating costs}) / \text{Number of breeding cows}]$$

Total cow-calf enterprise operating costs per cwt of weaned calf =

$$\frac{[(\text{Total cow-calf enterprise operating costs per breeding cow} / \text{Lbs of weaned calf production per breeding cow}) \times 100]}{100}$$

Both financial and economic operating costs are calculated for the report.

Interpretations:

Operating costs do not include financial or economic return to assets used in calculation of economic cost. This is a value that can be compared across operations because it is not influenced by debt structure, interest rates, or imputed capital returns. Family living withdrawals, at a level equivalent to the salary required to hire a non-family member to provide an equivalent service, is the cost included in operating costs for unpaid family labor and management.

Limitations:

1. Costs are on a pre-tax basis. Thus, they do not include income tax payments.
2. Accuracy is determined by the correct allocation of indirect operating costs.

IX. Total Financing Cost and Economic Return

Computation:

Total financing expense per breeding cow =

$$\frac{[(\text{Actual interest paid on real estate and non-real estate debt} + \text{Accrued interest expenses}) / \text{Number of breeding cows}]$$

Total financing expense and economic return per breeding cow =

$$\frac{[(\text{Actual interest paid} + \text{Actual interest on non-real estate capital} + (3 \text{ month treasury bill rate of return} \times \text{All non-real estate equity capital based on market valuation})) / \text{Number of breeding cows}]$$

Source:

The 3 month Treasury Bill rate of return is the opportunity cost and is expressed as a decimal value (e.g. .05 rather than 5 percent). Financing expense and economic return to non-real estate capital are calculated per cwt of weaned calf production by dividing values per breeding cow by the pounds of production of weaned calf per breeding cow and multiplying the value by 100 to convert the value to \$/cwt.

Interpretation:

The cost of financing is the actual interest paid on borrowed capital but does not include principle payments (a balance sheet adjustment to liabilities and equity). Real estate financing cost is the interest portion of the mortgage payment.

The economic cost of financing includes actual interest paid on borrowed non-real estate capital, plus an opportunity cost as the equity portion of non-real estate capital. To standardize equity or owned capital cost, the 3 month Treasury Bill rate was chosen as a common base for the opportunity cost or return to non-real estate owned capital.

Real estate financing costs or returns are not included for the economic cost, because these are included in the raised/purchased feed and grazing cash a cash rent equivalent.

Limitations:

1. Financing costs are highly variable between operations, based on the operation's debt structure. This makes the cost comparisons somewhat difficult or limited. The equity to asset, or percent equity figure, must be considered along with this value.

X. Total Cost Before Non-Calf Revenue Adjustments

Computation:

Total cost before non-calf revenue adjustments per breeding cow=

$$[(\text{Total operating cost} + \text{Total financial and economic return}) / \text{Number of breeding cows}]$$

Total cost before non-calf revenue adjustment per cwt of weaned calf=

$$[(\text{Total operating cost} + \text{Total financial and economic return}) / \text{Lbs of weaned calf production per breeding cow}] \times 100$$

These are pre-tax costs, thus they do not include income tax payments. Withdrawals are included in the cost calculation.

Interpretation:

This number clearly indicates the total pre-tax cost, per breeding cow, per cwt of calf produced, before adjustments are made for the non-calf revenue. It is calculated both on a financial and economic basis.

Limitations:

1. Cost of production is pre-tax.
2. Cost of production at this level is of little use since it does not recognize the importance of non-revenue. However, it is of value to calculate a breakeven before non-calf revenue is added.

XI. Net Income

Computation:

Net income per breeding cow=

$$(\text{Net farm income/Loss (Pre-tax)} - \text{Family living withdrawals}) / \text{Number of breeding cows}$$

Net income per cwt of weaned calf=

$$[(\text{Net pre-tax income per breeding cow} / \text{Lbs of weaned calf production per breeding cow}) \times 100]$$

Interpretation:

Net income after withdrawals for family living reflects the enterprise contribution to total farm or ranch income. Net income is pre-tax income, therefore it is not equal to IRS taxable income. It is the return to capital and risk generated by the enterprise.

1. Financial analysis- finance or accounting cost includes realized cash lease costs and mortgage interest cost on owned real estate.
2. Economic analysis- includes an opportunity cost for the total land, and non-real estate equity capital.

Family living withdrawals, at a level equivalent to the salary required to hire a non-family member to pro-

vide an equivalent service is the cost included in operating costs for unpaid family labor and management. This is consistent with retained earnings calculations.

Limitations:

1. This measure uses pre-income tax costs. The measure does not include income tax costs which are highly variable between operations.
2. The level of family withdrawals may be highly variable between operations. This is included in operating costs for operations that pay salary and wages.

XII. Percent Return On Assets (ROA)

Computation:

Percent returns on assets=

$$[(\text{Net enterprise income from operations} + \text{Total interest expenses} - \text{Family living withdrawals}) / \text{Average total enterprise assets}] \times 100]$$

Interpretation:

The rate of return on the enterprise assets is often used as an overall index of profitability for the enterprise. The higher the value, the more profitable the enterprise. This value is calculated for both the cost basis and fair market valuation of assets.

Percent return on assets is useful when comparing alternative investments. Recall, ROA does not include any appreciation (depreciation) of real estate assets. This is a pre-tax rate of return, and therefore, is not equal to after-IRS-taxable-rate of return.

Limitations:

1. Net enterprise income is on a pre-tax basis, but not equal to IRS taxable income.
2. Assets only devoted to the cow-calf enterprise must be used in the calculation of this value. This requires accurate allocation among enterprises as do all financial measures.

XIII. Total Non-Weaned Calf Revenue

Computation:

Total non-weaned calf revenue per breeding cow=

$$[(\text{Gain or loss on cull sales} + \text{Increase in base value of quantity transferred into raised breeding stock} + \text{Farm or ranch consumption} + \text{All other non-weaned calf revenue}) / \text{Number of breeding cows}]$$

Total non-weaned calf revenue per cwt of weaned calf=

$$[(\text{Total non-weaned calf revenue per breeding cow} / \text{Lbs of weaned calf production per breeding cow}) \times 100]$$

Interpretation:

The cow-calf enterprise generates revenue from an

accounting standpoint beyond the calves weaned. This revenue includes capital gains on the sale of culls, which can be either raised or purchased assets. This revenue is generated by the expenses associated with cow-calf enterprises, excluding weaned calves.

It is important to recognize that revenue from cull sales is only the gain or loss over the base (book value) of the culls when sold. This value is used to adjust total losses to determine the cost of production per cwt of weaned calf.

Limitations:

Accurate inventories and appropriate depreciation schedules are necessary to calculate gains or losses on culls and properly match revenues and expenses associated with raised replacements.

XIV. Total Calf Cost (Non-Calf Revenue Adjusted)

Computation:

Total calf cost (Non-calf revenue adjusted) per breeding cow=

$$\frac{[(\text{Total cost before non-calf revenue adjustment} - \text{Non-calf revenue}) / \text{Number of breeding cows}]$$

Per cwt weaned calf cost per cwt=

$$\frac{[(\text{Total calf cost, Non-calf revenue adjusted, per breeding cow}) \times 100]}{\text{Number of breeding cows}}$$

These are pre-tax costs, thus they do not include income tax payments. Withdrawals are included in the cost calculation.

Interpretation:

This is the total economic production cost per breeding cow and per cwt of calf weaned. This is the best value to use when communicating the financial and economic cost of production for the cow-calf enterprise. It can be used as the economic break-even cost of weaned calves given the cull price and other revenue (capital gains and inventory change). This is a pre-tax cost, therefore it does include income tax payments. Family living withdrawals, at a level equivalent to the salary required to hire a non-family member to provide an equivalent service, is the cost included in operating costs for unpaid family labor and management. This value is useful for determining whether increasing weaning weight is a profitable decision.

Limitations:

1. The economic cost value is on a pre-tax basis; individual farm or ranch costs are expected to differ substantially. For this reason, the most appropriate use of the value is comparison over time in the same operation.

2. Due to the importance of raised/purchased feed and owned real estate in the total production cost, valuation of these imputed inputs in the economic cost are extremely important, but somewhat subjective. Consistency in valuation methods from year to year is important.

3. This is an average cost for both steer/bull and heifer calves, therefore it is difficult to compare the cost to reported prices based on weight and sex. It can be compared to the weight average price of weaned calves shown in the marketing section of the performance report.

4. Break-even cost is difficult to use in the cow-calf enterprise evaluation because there are joint products produced, non-calf revenue (culls, etc.) and weaned calves.

XV. Rate of Economic Return on Owned Real Estate Investment

Computation:

Rate of economic return on owned real estate investment=

$$\frac{\{[(\text{Cash lease rate equivalent} + \text{Additional maintenance cost of leased grazing land} + \text{Cash lease cost for raised feed land}) / \text{Number of breeding cows}] + \text{Net pre-tax income after withdrawals per breeding cow}\}}{\text{Real estate investment per breeding cow}}$$

Interpretation:

The lease cost (opportunity cost rate of return) of owned real estate is added back to net pre-tax income, after withdrawals, to determine the residual return to real estate investment and risk. Thus, all net economic income is attributed to the land investment. This is a pre-tax rate of return to the land investment. Recall, all non-real estate capital is charged the opportunity rate or actual rate paid (interest) on debt in the calculation of net income. Return is a pre-tax income but is not equal to IRS taxable income.

If the land is leased, the landlord would pay property taxes and depreciation, and would share maintenance of land and improvements. These expenses are accounted for when adjusting the amount of net income that would remain after paying an opportunity cost lease rate. In other words, this is the adjusted economic cost (opportunity lease cost) of the grazing and raised feed land resource.

If this rate is below an expected rate of capital return, it means the cow-calf enterprise cannot generate the expected rate of return on the current market value of its real estate.

Limitations:

1. This is a pre-tax rate of return to the land investment and risk that does not account for land appreciation.

2. This value may be misinterpreted. One might think, for example, this value shows the cow-calf enterprise as unprofitable when the lower than expected rate is due mainly to over valued land.

Discussion

The veterinary profession should not be guilty of making uninformed decisions which potentially affect clients' profitability. Making production and health recommendations to clients is a part of everyday practice for the beef cattle veterinarian. Just as there is no such thing as a routine medical case in companion animal medicine, there are no routine answers to production and health related questions. The best answers come when the most information is gathered and analyzed. It is an ethical and moral obligation, as a professional consultant, to help producers enhance their operation. In doing so, the image of the veterinary profession will be enhanced.

Not every client will be receptive to sharing this information. One of the biggest challenges in production medicine is the unwillingness of some producers to share their financial information. For some producers it is a matter of pride and confidentiality; others may not want to take the time to provide the information for reasons unknown.

One approach to becoming involved in this area of production medicine, which has been utilized in our practice, is the "Cowboy College". Initially a series of meetings were scheduled once a month with 20 progressive producers. After the first meeting, these producers wanted to meet twice a month rather than monthly. The producers were divided into two groups to help facilitate one on one discussion. The first meetings centered around the producers' production goals, followed by application of the numbers from the formulas found in these two articles. A fictitious ranch was used for all calculations, using numbers which were derived from national and state averages, with inputs from the producers.

Each producer was mailed a copy of the subject to be discussed at the meeting, one week in advance, to

allow them to put their own figures in the calculations. At different times an ag lender, accountant, attorney, cow buyer, commodities broker, range specialist, and other experts in the beef cattle industry were brought in to teach and provide discussion. This "Cowboy College" has provided an important boost to our production medicine program. It is a major commitment to facilitate and coordinate this series of meetings, but has built a stronger bond between our practice and the clients we serve in production medicine.

For veterinarians who wish to improve their understanding of beef cattle production and financial management, courses are offered through the University of Nebraska-Great Plains Veterinary Educational Center, Clay Center, Nebraska, Texas A&M University, Colorado State University, and the American Association of Bovine Practitioners. Also, the Texas A&M IRM SPA Handbook can be purchased through Dr. James McGrann, Dept. of Agricultural Economics, College Station Texas, 77843-2124.

Conclusion

The beef cattle industry relies upon the veterinarian as a valuable source of information. Understanding the fifteen financial measures examined in this article will help our profession provide sound economical production information to the clients we serve. Emphasis should be placed on a standardized method of calculation and evaluation, thus comparing apple to apples and not apples to oranges.

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