



ECONOMIC ANALYSIS & DECISION MAKING

Economics of Raising Livestock on Pasture

Erin Pirro
Heather Weeks,
Farm Business Consultants
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OUTLINE

Defining Profitability

- 5 Keys to a profit

Budgets

- Cash flow planning
- Partial budgeting

Benchmarks

- Types
- Considerations
- Key Profit Indicators (KPIs)

Next Steps

- Case Study & Breakouts

SOPs (Standard Operating Procedures)
KPIs (Key Performance Indicators)

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RECORDS & CHARTS OF ACCOUNTS

- **Records**
 - Financial
 - Sales by product category
 - Expenses
 - Production
 - Tax
 - HR
- **Structure**
 - Chart of Accounts



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 FARM CREDIT EAST

THREE MAIN FINANCIAL STATEMENTS

Balance Sheet

A snapshot of the business's financial health

Income Statement

Tracks income and expenses over time

Cash Flow Statement

Shows flow of money coming in and going out of the business

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 FARM CREDIT EAST

YOUR PLAN FOR THE YEAR IN NUMBERS

▪ Cash Flow Planning

- Tracks cash in and out of the business
- Includes normal operating activities, inflow from investment or financing, and cash outflows including loan payments, owner draws or distributions

| Category | Budget | Actual |
|-------------------------------|------------------|-------------------|
| Beginning Cash Balance | \$10,000 | \$11,000 |
| In-Flows | | |
| - Meat Sales | \$100,000 | \$67,100 |
| - CSA Shares | \$6,000 | \$6,150 |
| Total Cash In-Flows | \$106,000 | \$84,250 |
| Out-Flows | | |
| Operating Expenses | \$80,000 | \$129,000 |
| Capital Purchases | \$0 | |
| Loan Payments | \$20,000 | \$20,000 |
| Total Cash Out-Flows | \$100,000 | \$149,000 |
| Net Cash Flow | \$6,000 | (\$64,750) |
| Ending Cash Balance | \$16,000 | (\$53,750) |

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YOUR PLAN FOR THE YEAR IN NUMBERS

▪ Monthly Cash Budget

1. Determine when cash comes into the business
2. Identify top outflows for cost control
3. Identify periods of cash surplus or deficit during operating year

- Shows the ability to pay expenses when they come due

▪ Tracks business **liquidity**:

- Ability to manage Accounts Payable
- Meet loan payment obligations
- Handle unforeseen risks
- Take advantage of new opportunities

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BREAKOUT



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Cash Flow

Monthly Cash in and out of the business built from bookkeeping records

Develop using best data available

Should be based on prior year with inflation, market changes and business modifications taken into account

Adapt

Regular bookkeeping allows for budget to actual comparison to adapt to financial shifts



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ENTERPRISE BUDGETING

WHY:

- Evaluate the efficiency of farm enterprises
- Estimate benefits and costs for major changes in production practices

HOW:

1. Identify your objective
2. Collect receipts by product, unit, or type
 - Ex: meat, hides, wool
3. Calculate costs
 - Variable = depend on the output based on inputs and assets
 - Fixed (Overhead) = do not vary or change with production

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Adapted from "Budgeting for Agricultural Decision Making," Penn State Extension,
<https://extension.psu.edu/budgeting-for-agricultural-decision-making>



FARM CREDIT EAST

BREAKEVEN COST OF PRODUCTION

Breakeven Price = Total Cost / Yield

The minimum price needed to cover all costs.

Can adjust to only include the variable costs if goal is to cover only the direct costs with producing a product.

Breakeven Yield = Total Costs / Price

The minimum yield (or product units sold) to cover all costs.

Why?

Determines if products are profitable in the short or long term.

If the breakeven price is higher than the expected price, then other income will have to absorb some or all the costs to produce that product.

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PARTIAL BUDGETING: COST/BENEFIT ANALYSIS

WHEN:

- Adopting a new production technology
- Changing or adding enterprises
- Hiring custom work
- Leasing instead of buying machinery
- Modifying production practices
- Making capital improvements

HOW:

1. Identify the question / change you are evaluating
2. Review existing income and expense data for your operation
3. Research the alternative income and costs associated with the proposed change
 - Call vendors, search the internet, talk to other farmers, call the local Extension office
4. Identify which changes have a definite cost/income change and which are less certain
5. Make sure to carry investment costs over multiple years

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FORMAT OF A PARTIAL BUDGET



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Additional Costs

Ex. More inputs, additional labor, new equipment

Reduced Income

Ex. If changing to a different crop, need to address here loss of current income

Additional Income

Ex. Increased quality price premium, new product sales, increased yield

Reduced Costs

Ex. Reduced labor costs if moving to automation, or eliminating equipment rental if investing in new equipment



PARTIAL BUDGETING: COST/BENEFIT ANALYSIS

| | |
|---|-----------------|
| Question / Change: | |
| Assumptions: | |
| Added Income: | Reduced Income: |
| Reduced Costs: | Added Costs: |
| Subtotal (A): | Subtotal (B): |
| Change in Net Income (A) – (B) = | |

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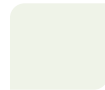
PARTIAL BUDGETING CONSIDERATIONS

- **Estimation Errors** – using wrong numbers
 - The value of the analysis using partial budgeting is only as accurate as the input data.
- **Structural Errors** – using total investment cost instead of annual numbers or using depreciation AND loan payments
- **Calculation Errors**
 - Didn't account for all impacts
 - Budgeting increased yields without additional input costs
 - Tax Consequences
- **Time Value of Money** – how does this investment compare to other options / future opportunities
- For large investments it's often good to look at impact on the overall business
 - Ex. balance sheet impact
- Predicting the Future – your best estimates don't always come to fruition
 - Did you do a **sensitivity analysis** if prices fall or costs rise?

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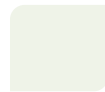


BREAKOUT



Partial Budget

Review this proposed change on the farm



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WHY BENCHMARK

- Measuring the financial health and performance of your business
- Identify opportunities to improve:
 - Financial position
 - Efficiencies
 - Profitability
- Production benchmarks
 - Yield per acre
 - Rate of gain per day
- Financial benchmarks



TYPES OF BENCHMARKS

- Historical
 - Against yourself
 - Chart improvement over time
- Industry Standards
 - Meet recommendations set by experts
- Peers
 - Compare to competition
 - Compare to top 20 or top 25% when ranked on a certain metric





PITFALLS OF BENCHMARKING

- Internal data may improve, but may still not be profitable long term
- External benchmarking
 - Is all data calculated the same?
 - Are production practices / size & scale similar?
 - Do farms have similar goals?



BENCHMARKING

1. Start with solid data
 - Garbage in → Garbage out
2. Identify your goals (KPIs)
3. Compare apples to apples
4. Decide the comparison
 - Yourself over time
 - Industry standards
 - Peers
 - Top performers
 - All of the above?





KEY PERFORMANCE INDICATORS (KPIs)

- What are your measures of success?
 - Net Income
 - Yield
 - Unique customers
 - Growth
 - Debt pay down
 - Quality of life



KEY PERFORMANCE INDICATORS (KPIs)

- What is the benchmark that your farm is trying to achieve?
 - S - Specific
 - M - Measurable
 - A - Achievable
 - R - Realistic
 - T - Timebound
- Use SMART goals to measure your performance against your goals
- Different management philosophies may yield different results



THANK YOU!

Farm Credit East, ACA

FarmCreditEast.com

Erin Pirro

Farm Business Consultant

Erin.Pirro@FarmCreditEast.com

Heather Weeks

Farm Business Consultant

Heather.Weeks@FarmCreditEast.com

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ADDITIONAL RESOURCES:

- [Assessment of the economic viability of grass-fed beef production in the Northeast U.S.](#)
 - Models only – no benchmarked data
- [Vermont Grass-fed Beef Profitability](#)
 - Budgets provided for reference, no benchmarks at this time
- [Scaling Up Pasture-Based Livestock Production](#)
 - Land and Feed metrics, no financial benchmarks to compare

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