Evaluating New Hay Enterprises

**Two Common Questions**

1. Should I start producing _______ as an alternative crop.
   Corollary = “I’m thinking about getting into the hay business.”
2. Is it economical to purchase _______ (piece of equipment, additional land, etc.)

**Key Considerations for New Enterprises**

- Economic considerations
  - Will it make money in the long-term (profitability)?
  - Will it cash-flow (liquidity)?
- Other practical matters
  - The new enterprise as compared to what?
  - See yesterday’s discussion on product selection.
  - Can you sell all of the production?
  - What is the market for less than perfect production?
- Enterprise budgets make an excellent starting place

**Profitability vs. Cash Flow**

- Profitability is an indicator of the long-term sustainability of an enterprise.
- Indicates whether or not an enterprise can cover all costs including variable, fixed, capital and management.
- Exam profitability before proceeding to cash-flow analysis.

- Cash-flow is a short-term measure
- Indicates if income is greater than outflow.
- Does not necessarily indicate profitability: a business can have positive cash flow by selling assets and draining the savings account.
- A business can be profitable and not cash-flow. However, it cannot have negative cash-flow (in the long-run) and be profitable.
- A successful venture must be profitable and liquid (positive cash-flow)!
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EXAMPLE FARM

- 135 acres currently in row-crop production
- Sprig 25 acres 4 years and 35 acres 5th year
- Yield & Price Assumptions
  - 3.50 tons Horse Quality Hay - $280/ton
  - 0.75 ton Medium Quality Hay - $125/ton
  - 0.75 ton Low Quality Hay - $100/ton

ENTERPRISE BUDGET

- Projection of costs and returns associated with the production of an enterprise for some future period, such as the coming year.
- An Enterprise is a crop or animal that can be grown to produce a product or products.
- Can have many different budgets for a given enterprise based on various levels of production and types of technology.

COMPONENTS OF A BUDGET

- Income - Cash and non-cash returns
  - Product Sales
  - Premium Quality
  - Medium Quality
  - Other Quality
- Expense
  - Variable
    - Feed
    - Seed
    - Fertilizer
    - Vet
    - Labor
    - Operating Interest

COMPONENTS OF A BUDGET-CONT’D

- Expense
  - Fixed
    - Economic or non-cash costs
      - Depreciation
      - Interest
      - Taxes and Insurance
      - Land Change
      - Profit or Return to Management
    - Cash costs
      - Principal & Interest Payments
      - Machinery Taxes and Insurance
      - Real Estate Taxes
      - Miscellaneous Overhead
      - Family Living

VARIABLE COSTS

- Costs that vary or fluctuate with
  - Size or level of production (number of head, acres, etc.)
  - Production practices chosen (type of field and tillage operations)
- During the production period, variable costs become fixed or sunken cost once incurred, almost all costs are fixed at the end of the production period.
- All costs are variable in the long-run (looking at several production periods).

FIXED COSTS

- Do not change with the level of production.
- They are incurred or remain the same no matter the level of production.
- May be cash or non-cash in nature.
- Includes depreciation (or payments), taxes, insurance and interest on machinery, equipment, and buildings investment.

Return above variable cost is a good indicator of a farm’s ability to meet cash obligations.

Return above total cost is a good indicator of a farm’s ability to meet all obligations and produce a profit from the particular enterprise (long term viability).
FARM-LEVEL EXPENSES

- Some expenses are easier to aggregate at the farm-level
  - Fuel
  - Repairs
  - Family living
  - Taxes and insurance
- If that is the case, use only variable costs you can identify and aggregate everything else at the farm level.

EXAMPLE - Perennial Peanut Hay Projected Revenue and Costs Once Established

ANALYZING PROFITABILITY AND LIQUIDITY

IMPACT OF PERCENTAGE OF HORSE QUALITY HAY ON NET INCOME/ACRE

WILL IT CASH-FLOW?

ANALYZING LIQUIDITY (CASH-FLOW)
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YIELD ASSUMPTIONS AND RESULTING REVENUE, VARIABLE COSTS AND RETURNS OVER VARIABLE COSTS (ROVC)

<table>
<thead>
<tr>
<th>Year</th>
<th>Yield (tons/Quality</th>
<th>Revenue ($/Acre)</th>
<th>Variable Costs ($/Acre)</th>
<th>ROVC ($/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>1.5 tons/High Quality</td>
<td>$280</td>
<td>$350</td>
<td>$80</td>
</tr>
<tr>
<td>Year 2</td>
<td>1.5 tons/Medium Quality</td>
<td>$125</td>
<td>$400</td>
<td>$75</td>
</tr>
<tr>
<td>Years 3-5</td>
<td>0.5 tons/Low Quality</td>
<td>$100</td>
<td>$300</td>
<td>$20</td>
</tr>
</tbody>
</table>

High quality = $280/ton
Medium Quality = $125/ton
Low Quality = $100/ton

GOOD STUFF TO KNOW

- Gross Margin = Revenue - Variable Costs
- Returns to Land and Labor are calculated by assuming $0 cost for that input and dividing Gross Margin by the units used.
- Returns to Land
  - = Gross Margin if no land charge
  - = (Gross Margin + Land Cost) if land charge included
- Returns to Labor
  - = (Gross Margin + labor cost)/hours of labor utilized
- Return on Capital
  - = Gross Margin/amount of capital required (total variable expenses)

PARTIAL BUDGETING AS A DECISION-AID

- Partial budgeting examines making only one change in an operation:
  - Enterprise mix
  - Technology adoption
  - Equipment investment
  - Etc., etc.,
- Partial budgets include:
  - Additional revenue
  - Reduced cost
  - Additional expense
  - Reduced income

ACCUMULATED ROVC FOR PPH

PARTIAL BUDGETING AS A DECISION-AID

- Partial budgeting is useful for evaluating:
  - Purchases of new pieces of equipment
  - Replacing older equipment with newer equipment
  - Construction of facilities
  - Purchase of additional land
  - Evaluating rent vs. lease of land
EXAMPLE TO BE DETERMINED BY AUDIENCE

Generic Partial Budgeting Form

<table>
<thead>
<tr>
<th>Additional Costs</th>
<th>Additional Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Revenue</td>
<td>Reduced Costs</td>
</tr>
<tr>
<td>Total additional costs + reduced revenue = A</td>
<td>Total additional revenue + reduced costs = B</td>
</tr>
<tr>
<td>Total Profit = B - A</td>
<td></td>
</tr>
</tbody>
</table>

Completed Partial Budgeting Form for Example

<table>
<thead>
<tr>
<th>Additional Costs</th>
<th>Additional Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Revenue</td>
<td>Reduced Costs</td>
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SUMMARY

- When evaluating new enterprises consider both profitability and liquidity.
- Profitability is an indicator of long-term sustainability.
- Liquidity (cash flow) is a short-term concept that refers to income being greater than outflow.
- Partial budgeting can be a very useful tool for analyzing isolated changes in an operation.