Introduction

The planning process provides producers with the opportunity to look at their operation as a group of distinct enterprises. Alternative enterprises should be evaluated on the basis of Contribution Margin, taking into consideration resource constraints, market opportunity, risk and uncertainty.

The Contribution Margin must provide funds for interest, overhead and other indirect expenses as well as a return for living expenses, loan repayment and investment. These items should be included in the overall farm plan which will include a Projected Income Statement and Projected Cash Flow Budget.

Key Factors Affecting Profit

<table>
<thead>
<tr>
<th>Quality - Hay</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min 65% T.D.N.</td>
</tr>
<tr>
<td></td>
<td>Min. 18% Crude Protein</td>
</tr>
<tr>
<td>- Silage</td>
<td>Min 60% T.D.N.</td>
</tr>
<tr>
<td></td>
<td>Min. 16% Crude Protein</td>
</tr>
</tbody>
</table>

Forage yields are affected primarily by species and variety selection, supply of nutrients and availability of moisture to the crop. Efficient use of nutrients from manure and/or fertilizer will result in optimum yields. Forage quality is affected most by stage of maturity at harvest. Proper handling and storage facilities will maintain good feed quality. Additional costs may be incurred for weed control. To assess the full impact of forage production, a contribution margin analysis should also be carried out for the establishment of the forage crop.

Marketing Alternatives

A limited opportunity exists to market grass silage. The majority of the crop is produced for consumption on the farm. Livestock operations would realize the cash income when forage is transferred to the livestock enterprise. Hay can be marketed locally to individuals with small livestock holdings on limited acreages.

Cash Flow Timing

<table>
<thead>
<tr>
<th>J F M A M J J A S O N D</th>
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<tbody>
<tr>
<td>%Inc 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>%Exp 15 20 20 20 20 20 5</td>
</tr>
</tbody>
</table>

The above information indicates the timing of monthly flow of funds included in the contribution margin only. A complete Projected Cash Flow should include indirect expenses, capital sales and purchases, loans and personal expenses.

Rules of Thumb

<table>
<thead>
<tr>
<th>Machinery Investment</th>
<th>$3,000/acre</th>
</tr>
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<tbody>
<tr>
<td>Direct Expenses % of Income</td>
<td>30 - 40%</td>
</tr>
</tbody>
</table>

The above indicators are provided for comparison purposes. They are set out as potential targets for grass forage production.

Contact:
DON BATES, P.Ag.
Field Crop Specialist
Chilliwack
BOB CHEATLEY, P.Ag.
Farm Management Branch
Abbotsford
ESTABLISHED GRASS FORAGE
Target Yield - 6 Tons D.M./acre

Contribution Margin
1 Acre of
Grass Forage
Fraser Valley

Income

Yield  Price  Unit  Income
Grass Silage  10  $50.00  ton  $500
(35 - 40% D.M.)
Grass Hay  2.75  120.00  ton  330
(85 - 90% D.M.)
Total Income  $830

Direct Expenses

Quantity  Price  Unit  Expense
Fertilizer
Manure  10  $0.00  ton  $0
Lime  .5  45.00  MT  22
0 - 0 - 60  420  .15  lb.  63
11 - 52 - 0  110  .23  lb.  25
46 - 0 - 0  600  .15  lb.  90

Crop Supplies and Service
Silage Additive  10  3.50  ton  35
Silo Cover  10  .15  ton  2
Twine .175  28.74  roll  5

Fuel, Oil & Lube  38
Equipment Repair & Maintenance  30

Total Direct Expenses  $310

Contribution Margin  $520

Buildings & Machinery
Replacement Cost
Total Farm Size - 90 Acres

Machinery Shed  $15,000
Bunker Silo  35,000
Hay Storage  15,000
Power Machinery  33,000
Field Machinery  55,500
Harvest Equipment  12,000
Vehicles  104,500
Total  $270,000

Fraser Valley
Alfalfa Hay

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<tr>
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</thead>
<tbody>
<tr>
<td>$/ton</td>
<td>250.00</td>
<td>200.00</td>
<td>150.00</td>
<td>100.00</td>
<td>50.00</td>
</tr>
</tbody>
</table>

Contribution Margin - Sensitivity Analysis

The table below lists the changes to contribution margin as yield of hay changes and price received varies.

<table>
<thead>
<tr>
<th>Hay Yield Tons per Acre</th>
<th>1.75</th>
<th>2.25</th>
<th>2.75</th>
<th>3.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>80.00</td>
<td>330</td>
<td>370</td>
<td>410</td>
<td>450</td>
</tr>
<tr>
<td>100.00</td>
<td>365</td>
<td>415</td>
<td>465</td>
<td>515</td>
</tr>
<tr>
<td>120.00</td>
<td>400</td>
<td>460</td>
<td>520</td>
<td>580</td>
</tr>
<tr>
<td>140.00</td>
<td>435</td>
<td>505</td>
<td>575</td>
<td>645</td>
</tr>
</tbody>
</table>

This information is provided as a guideline only. Target yield indicates above average production. An individual crop plan should be developed by each producer. Planning forms may be obtained from your local office of the B. C. Ministry of Agriculture, Fisheries and Food.