



PLANNING FOR PROFIT

Province of British Columbia
Ministry of Agriculture, Fisheries and Food

Barley Annual Ryegrass Silage Kamloops District Spring 1993

Agdex 120-810

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 Statement**.

Key Factors Affecting Profit

	Target
Yield: Barley	3.5 tons D.M./acre
Ryegrass	2.0 tons D.M./acre
Fall Pasture	1.4 AUM/acre
Energy: Barley	62+% TDN
Annual Ryegrass	65+% TDN

The yield of 5.5 tons of hay equivalent per acre is obtained by seeding early, using adequate fertilizer (based on soil test), timely first cut harvest and rapid irrigation coverage to encourage growth of ryegrass. Ryegrass yields include late fall grazing.

Good storage includes rapid filling and packing of the silage to exclude air and covered to protect silage. Well designed silage storage systems are required to reduce storage losses.

Silage should be included in a well balanced ration based on feed analysis results and fed in well designed feed bunks to minimize wastage. Grazing should be controlled with electric fences.

Marketing Alternatives

Silage is grown to be used as a feed for the livestock enterprise. The prices used are an indicator of value of the cost of replacement forages. The high cost of moving silage reduces the value of the silage as a commercial crop.

Cash Flow Timing

	J	F	M	A	M	J	J	A	S	O	N	D
%Inc												
%Exp												

Next Year

15 10 20 20 20 15

The above information indicates the timing of monthly flow of funds included in the Contribution Margin only. Silage is used as an input into the livestock operation and as such the cash flow will arise out of the sale of the production from the livestock enterprise. A complete **Projected Cash Flow** should include indirect expenses, capital sales and purchases, loans and personal expenses.

Rules of Thumb

Equipment Investment	\$1,000/acre
Building Investment	\$250/acre
Irrigation Investment (70 ac)	\$500/acre
Direct Expenses % of Income	29 %

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

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Barley Annual Ryegrass Silage

Target Yield - Barley Silage - 3.5 tons / ac.
Annual Ryegrass - 2.0 tons / ac.

Contribution Margin 1 Acre of Barley Annual Ryegrass Silage

Income

	Yield	*Price	Unit	Income
Barley Silage	3.5	\$95.00	ton	\$332.50
Annual Ryegrass	2.0	95.00	ton	190.00
Fall Pasture	1.4	18.00	AUM	25.20
Total Income				\$547.70

Direct Expenses

	Quantity	Price	Unit	Expense
<u>Seed</u>				
Barley	75	\$0.14	lb.	\$10.36
Annual ryegrass	15	0.57	lb.	8.55

Fertilizer

46-0-0	330	0.13	lb.	43.42
(actual rate should be based on soil test)				

Crop Supplies & Services

Irrigation Hydro	9	2.26	applic.	20.32
Water Rights	2.5	0.50	ac.ft.	1.25
Silage cover	70	0.04	sq.ft.	3.02
Fuel Costs				27.70
Machine Repair & Maintenance				45.72

Total Direct Expenses \$160.34

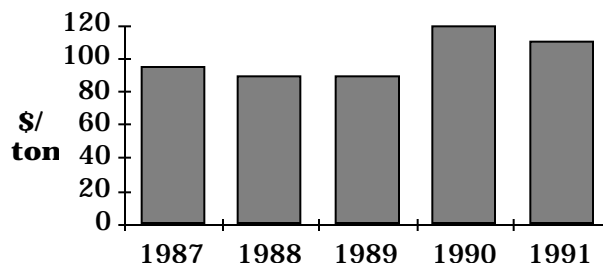
Contribution Margin \$387.36

*Hay equivalent price.

Buildings and Machinery Replacement Cost Total Farm Size - 200 Acres Silage - 70 acres

Machine Shed & Shop	\$ 25,000
Bunker Silo (4000 sq.ft.)	19,000
Irrigation Equipment	35,000
Power Machinery	82,800
Cultivation Equipment	20,750
Harvesting Equipment	47,500
Small Tools & Misc.	16,500
Vehicles	<u>28,000</u>
Total	\$274,550

Alfalfa Hay Prices Okanagan



Contribution Margin - Sensitivity Analysis

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

Price \$/Ton	Silage Yield Tons per Acre			
	4.5	5.0	5.5	6.0
75.00	202	240	277	315
85.00	247	290	332	375
95.00	292	340	<u>387</u>	435
105.00	337	390	442	495

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.