

CHAPTER 9



CHAPTER IX - CROP BUDGETS, (CARE) AND PARTIAL BUDGETING

INTRODUCTION

This chapter discusses and contains several techniques and formats to develop and display crop budget and partial budgeting information.

Crop budgets may be very simple or extremely detailed, they may be manually generated or computer generated. Examples of both the manually generated and the computer generated budgets in various degrees of detail are included in this Chapter.

COST AND RETURN ESTIMATOR (CARE)

For instructions in the use of the CARE program see the CARE User Manual.

The computer generated crop budget is a product of the CARE software program. The CARE program will function as a stand alone unit or it can be accessed through CAMPS. To access CARE through CAMPS select **DEVELOP AND EVALUATE ALTERNATIVES** from the main menu. From the Develop and Evaluate Alternatives menu select item **H - CARE**.

Several budget output formats are available from the CARE program.

1. Quick Budget Report
2. Quick Budget Comparison Report
3. Summary Budget Report
4. Detailed Budget Report

Selection would be based on the need for various degrees of detail. A simple yet quite detailed format that will likely meet the needs in most field office applications is the **QUICK BUDGET REPORT**.

Quick Budget is designed to provide an easy way to interactively modify the summary results of the CARE Budget Analysis Report. The Quick Budget process starts by creating a budget from databases maintained in the main CARE system or loading a Quick Budget saved from a previous session and converts them into an editable spreadsheet. This allows the user to make changes to the operations, materials, yields and

prices. The effect on costs and returns can then be assessed. Quick Budget also allows the user to construct a budget from scratch without going through the full CARE budget construction.

The QUICK BUDGET COMPARISON REPORT is also a very useful option. The comparison report will compare two budgets and also show the difference or change that occurs when going from one system to another, i.e., conventional tillage to no till. Other budget formats available are the SUMMARY BUDGET REPORT and the DETAILED BUDGET REPORT.

PARTIAL BUDGETING

In many of our evaluations a complete crop budget analysis is not necessary. A technique known as partial budgeting works very well when measuring the effects of changing a management or production system. Partial budgeting looks at the change in costs and returns that would occur if the proposed changes were adopted. Suggested formats and examples of partial budgeting are found in this chapter.

TERMS

For a better understanding of crop budgets and partial budgeting you should be familiar with the following terms:

Cost and return estimator (CARE). A software program designed for use on a microcomputer to create and adjust cost and return estimates (crop budgets).

Crop budget. A systematic listing of resources used, their cost for specified yield levels, and the value of the output by individual crops or enterprise.

Custom rate. The usual fee for farm services rendered, generally for machine hire.

Fixed costs. Expenditures which would be incurred even if no output were produced.

Gross returns. Total production in units multiplied by the price per unit.

Net returns. The residual value of production after total costs of production are subtracted from the gross returns.

Operating cost. Expenditures for machine operation which generally include lubrication, repairs, and fuel (not applicable to all machines).

Overhead costs. Expenditures associated with the farm organization, not generally influenced by levels of production or kinds of crops grown. Examples include most utilities, machine shop and related shop tools, accountant or management fees, etc.

Ownership costs. Costs unrelated to rate of annual use, such as expenditures for depreciation, taxes, interest on investment, insurance and housing.

Partial budgeting. A technique where only the relevant changes in income and production costs are identified, listed, and used in the analysis.

Production costs. Expenditures, both fixed and variable, for all items required for specified levels of crop or livestock production.

Variable costs. Costs relevant to production or those occurring only as production takes place.



CARE WORKSHEET

FIELD DATA

Field Name - _____
Number of Acres - _____
Land Charge Type - No Charge, Owned, Cash Rent, Share Rent **
Land Charge - _____
Soil Type - _____
Soil Mapping Unit - _____
Land Capability Class - _____ **
Subclass - _____
Slope - _____
Drainage - _____ **
Soil Erosion Group - _____

BUDGET DEFINITION

Budget Name - _____
Budget I.D. - _____
Field Name - * _____
Acres - (is set by field choice)
Sale Date - _____
Budget Crop - * _____
Yield - _____
Management Type - Yield, Total Cost, Gross, Fixed, None **

DRYING INFORMATION (if needed, otherwise leave blank)

Start Moisture - _____
End Moisture - _____
Percent Dried - _____
Drying Fuel - _____ **

MISC. INFORMATION

Tillage System - _____
Residue Mgt. - _____
Conservation Method - _____

MACHINERY USED

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

- (*) - choices can be obtained by using the F4 key
(**) - choices can be obtained by using the space bar
(***) - use F4 for default setting

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

Tractor Size (HP) - * _____
Implement - * _____
Prod. Stage - Pre-Harvest, Harvest
Starting Date - _____
Times Over - _____
Operating Speed - ***
Operation Width - ***
Field Efficiency - ***
Other Inputs - * _____
Quantity of Inputs - _____

(*) - choices can be obtained by using the F4 key
(**) - choices can be obtained by using the space bar
(***) - use F4 for default setting

Prepared for Planning Purposes Only.

I. Parameters

Title : Budget 4 91-Conv. Corn Budget ID : NE-040-006
 Field Name : Conv. Corn Acres : 1
 Land Charge Type : No Charge Land Charge : 0.00
 Mgmt Charge Type : Total Cst Mgmt Charge : 5.000

=====

II. Revenue

Crop Name	Units	Quantity	Price /Unit	Value /Acre	Total Revenue
Corn Grain	Bushels	135.90	2.25	305.78	305.78
Total Crop Revenue				305.78	305.78

=====

III. Machinery Operations

Date	Operation	Acres /Hour	Times Over	Cost /Unit	Cost /Acre	Total Cost
Pre-Harvest Activities						
Apr	Anhydrous Applicator	7.85	1.00	0.04	5.82	5.82
May	Sprayer 30'	13.79	1.00	0.02	2.44	2.44
May	Sprayer 30'	13.79	1.00	0.02	2.44	2.44
May	Planter 6-30	4.91	1.00	0.10	12.92	12.92
May	Disk - Tandem 20'	9.41	1.00	0.03	4.57	4.57
May	Disk - Tandem 20'	9.41	1.00	0.03	4.57	4.57
Jun	Cultivator - Row 6-	5.53	1.00	0.05	6.17	6.17
Pre-Harvest Total				0.29	38.93	38.93
Harvest Activities						
Sep	Corn Head 6-30	3.18	1.00	0.23	31.27	31.27
Harvest Total				0.23	31.27	31.27
Machinery Operations SubTotal				0.52	70.20	70.20

=====

IV. Materials and Services

Date	Material / Service	Units	Quantity	Cost /Unit	Cost /Acre	Total Cost
Apr	Anhydrous Ammonia	Pounds	133.00	0.12	16.28	16.28
Apr	Phosphorous	Pounds	42.00	0.29	11.98	11.98
May	Corn Seed	Bushels	0.27	57.96	15.65	15.65
May	Dual 8E	Pints	2.00	8.15	16.30	16.30
May	Banvel	Pints	0.50	8.30	4.15	4.15
Sep	Trucking	Bushels	135.90	0.06	8.15	8.15
Sep	Auger	Bushels	135.90	0.02	2.72	2.72
Materials and Services SubTotal				0.55	75.23	75.23

=====

Prepared for Planning Purposes Only.

I. Parameters

Title : Budget 3 91-No Till Corn Budget ID : NE-040-006
 Field Name : No Till Corn Acres : 1
 Land Charge Type : No Charge Land Charge : 0.00
 Mgmt Charge Type : Total Cst Mgmt Charge : 5.000

=====

II. Revenue					
Crop Name	Units	Quantity	Price /Unit	Value /Acre	Total Revenue
Corn Grain	Bushels	141.10	2.25	317.47	317.47
Total Crop Revenue				317.47	317.47

=====

III. Machinery Operations						
Date	Operation	Acres /Hour	Times Over	Cost /Unit	Cost /Acre	Total Cost
Pre-Harvest Activities						
Apr	Anhydrous Applicator	7.85	1.00	0.04	5.82	5.82
May	Sprayer 30'	13.79	1.00	0.02	2.44	2.44
May	Sprayer 30'	13.79	1.00	0.02	2.44	2.44
May	Planter 6-30	4.91	1.00	0.09	12.92	12.92
Pre-Harvest Total				0.17	23.62	23.62

Harvest Activities						
Sep	Corn Head 6-30	3.18	1.00	0.22	31.27	31.27
Harvest Total				0.22	31.27	31.27
Machinery Operations SubTotal				0.39	54.89	54.89

=====

IV. Materials and Services						
Date	Material / Service	Units	Quantity	Cost /Unit	Cost /Acre	Total Cost
Apr	Anhydrous Ammonia	Pounds	133.00	0.12	16.28	16.28
Apr	Phosphorous	Pounds	43.00	0.28	11.98	11.98
May	Corn Seed	Bushels	0.26	60.19	15.65	15.65
May	Dual 8E	Pints	2.00	6.82	13.64	13.64
May	Banvel	Pints	0.50	7.74	3.87	3.87
May	AAtrex 4L	Quarts	1.00	2.67	2.67	2.67
May	2,4-D Amine	Pints	0.25	1.12	0.28	0.28
Sep	Auger	Bushels	141.10	0.02	2.82	2.82
Sep	Trucking	Bushels	141.10	0.06	8.47	8.47
Materials and Services SubTotal				0.54	75.66	75.66

=====

Prepared for Planning Purposes Only.

I. Parameters

Title : Budget 2 91-Conv. SB Budget ID : NE-040-006
 Field Name : Conv. Soybeans Acres : 1
 Land Charge Type : No Charge Land Charge : 0.00
 Mgmt Charge Type : Total Cst Mgmt Charge : 5.000

II. Revenue

Crop Name	Units	Quant -ity	Price /Unit	Value /Acre	Total Revenue
Soybeans	Bushels	48.50	5.50	266.75	266.75
Total Crop Revenue				266.75	266.75

III. Machinery Operations

Date	Operation	Acres /Hour	Times Over	Cost /Unit	Cost /Acre	Total Cost
Pre-Harvest Activities						
Apr	Disk - Tandem 20'	9.41	1.00	0.09	4.57	4.57
Apr	Disk - Tandem 20'	9.41	1.00	0.09	4.57	4.57
May	Sprayer 30'	13.79	1.00	0.05	2.44	2.44
May	Sprayer 30'	13.79	1.00	0.05	2.44	2.44
May	Grain Drill - No Til	5.09	1.00	0.25	12.09	12.09
Pre-Harvest Total				0.54	26.11	26.11
Harvest Activities						
Sep	Bean, Flex Head 15'	3.44	1.00	0.57	27.59	27.59
Harvest Total				0.57	27.59	27.59
Machinery Operations SubTotal				1.11	53.70	53.70

IV. Materials and Services

Date	Material / Service	Units	Quant -ity	Cost /Unit	Cost /Acre	Total Cost
May	Soybean Seed	Bushels	0.83	8.43	7.00	7.00
May	Galaxy	Pints	1.50	6.76	10.14	10.14
May	Nitrogen	Pounds	4.00	0.25	1.00	1.00
May	Poast	Pints	1.00	14.80	14.80	14.80
May	Dash	Quarts	1.00	3.07	3.07	3.07
Jul	Bean Walking	Hours	0.90	5.00	4.50	4.50
Sep	Trucking	Bushels	48.50	0.06	2.91	2.91
Sep	Auger	Bushels	48.50	0.02	0.97	0.97
Materials and Services SubTotal				0.92	44.39	44.39

Prepared for Planning Purposes Only.

V. Other Charges	Cost /Unit	Cost /Acre	Total Cost
Interest On Operating Capital	0.06	3.12	3.12
Settlement Month			
Nov			
Interest Rate	10.000		
Crop Drying Costs	0.00	0.00	0.00
Percentage Dried	100.000		
Starting Moisture	0.000		
Ending Moisture	0.000		
Drying Fuel	None		
Custom Rate	0.00		
Land Charges	0.00	0.00	0.00
Management Charges	0.07	3.53	3.53
Other Charges SubTotal	0.14	6.65	6.65

	Cost /Unit	Cost /Acre	Total Cost
VI. Total Costs	2.16	104.74	104.74
VII. Net Returns	3.34	162.01	162.01

Breakdown By Type and Phase	Cost /Unit	Cost /Acre	Total Cost
Breakdown By Cost Type			
Ownership Costs	0.63	30.69	30.69
Operation Costs	1.53	74.05	74.05
Breakdown By Phase of Operation			
Pre-Harvest Costs	1.52	73.62	73.62
Harvest Costs	0.64	31.12	31.12

Fuel and Labor Summary

Fuels Used	Units	Quantity	Cost /Unit	Cost /Acre	Total Cost
Diesel Fuel	Gallons	4.46	0.70	3.12	3.12
Fuel SubTotal			0.06	3.12	3.12
Labor Used					
Mechanical	Hours	0.94	5.50	5.17	5.17
Other	Hours	0.08	3.70	0.30	0.30
Labor SubTotal			0.11	5.47	5.47

Prepared for Planning Purposes Only.

I. Parameters

Title : Budget 1 91-No Till SB Budget ID : NE-040-006
 Field Name : No Till Soybeans Acres : 1
 Land Charge Type : No Charge Land Charge : 0.00
 Mgmt Charge Type : Total Cst Mgmt Charge : 5.000

II. Revenue

Crop Name	Units	Quantity	Price /Unit	Value /Acre	Total Revenue
Soybeans	Bushels	50.10	5.50	275.55	275.55
Total Crop Revenue				275.55	275.55

III. Machinery Operations

Date	Operation	Acres /Hour	Times Over	Cost /Unit	Cost /Acre	Total Cost
Pre-Harvest Activities						
Apr	Sprayer 30'	12.79	1.00	0.05	2.44	2.44
May	Grain Drill - No Til	5.09	1.00	0.24	12.09	12.09
May	Sprayer 30'	13.79	1.00	0.05	2.44	2.44
May	Sprayer 30'	13.79	1.00	0.05	2.44	2.44
Pre-Harvest Total				0.39	19.41	19.41
Harvest Activities						
Sep	Bean, Flex Head 15'	3.44	1.00	0.55	27.59	27.59
Harvest Total				0.55	27.59	27.59
Machinery Operations SubTotal				0.94	47.00	47.00

IV. Materials and Services

Date	Material / Service	Units	Quantity	Cost /Unit	Cost /Acre	Total Cost
Apr	Round Up	Quarts	0.75	12.43	9.32	9.32
Apr	Ammonium Sulfate	Pounds	1.70	0.20	0.34	0.34
May	Galaxy	Pints	1.50	6.76	10.14	10.14
May	Nitrogen	Pounds	4.00	0.25	1.00	1.00
May	Poast	Pints	1.00	14.80	14.80	14.80
May	Dash	Quarts	1.00	3.07	3.07	3.07
May	Soybean Seed	Bushels	0.83	8.43	7.00	7.00
Jul	Bean Walking	Hours	0.90	5.00	4.50	4.50
Sep	Auger	Bushels	50.10	0.02	1.00	1.00
Sep	Trucking	Bushels	50.10	0.06	3.01	3.01
Materials and Services SubTotal				1.08	54.18	54.18

Prepared for Planning Purposes Only.

V. Other Charges	Cost /Unit	Cost /Acre	Total Cost
Interest On Operating Capital	0.07	3.49	3.49
Settlement Month Nov			
Interest Rate 10.000			
Crop Drying Costs	0.00	0.00	0.00
Percentage Dried 100.000			
Starting Moisture 0.000			
Ending Moisture 0.000			
Drying Fuel None			
Custom Rate 0.00			
Land Charges	0.00	0.00	0.00
Management Charges	0.08	3.90	3.90
Other Charges SubTotal	0.15	7.39	7.39

	Cost /Unit	Cost /Acre	Total Cost
VI. Total Costs	2.17	108.57	108.57
VII. Net Returns	3.33	166.98	166.98

XX

Breakdown By Type and Phase	Cost /Unit	Cost /Acre	Total Cost
Breakdown By Cost Type			
Ownership Costs	0.53	26.73	26.73
Operation Costs	1.63	81.84	81.84
Breakdown By Phase of Operation			
Pre-Harvest Costs	1.54	77.08	77.08
Harvest Costs	0.63	31.49	31.49

Fuel and Labor Summary

Fuels Used	Units	Quantity	Cost /Unit	Cost /Acre	Total Cost
Diesel Fuel	Gallons	3.72	0.70	2.60	2.60
Fuel SubTotal			0.05	2.60	2.60
Labor Used					
Mechanical	Hours	0.78	5.50	4.29	4.29
Other	Hours	0.07	3.70	0.26	0.26
Labor SubTotal			0.09	4.55	4.55

(EXAMPLE WORKSHEET TO DETERMINE OWNERSHIP AND OPERATING COSTS ON NONPOWERED EQUIPMENT)

DATE _____ PRICE BASE _____

2. No till planter, 6 row

10 YEAR LIFE

300 ACRES ANNUAL USE

A. OWNERSHIP COSTS

NEW COST \$18,000

TRADE-IN VALUE 2,000 @ 10% \$200

DEPRECIATION 16,000 @ 10% (.163) 2608

TAXES -

INSURANCE & HOUSING 192

OWNERSHIP COST PER YEAR \$3,000

OWNERSHIP COST PER ACRE \$10.00

B. OPERATING COSTS

REPAIRS \$ 250 PER YEAR

REPAIR COST PER ACRE \$0.83

OTHER OPERATING COST PER ACRE 0.05

OPERATING COST PER ACRE \$0.88

TOTAL OWNERSHIP AND OPERATING COST PER ACRE \$10.88

(EXAMPLE WORKSHEET TO DETERMINE OWNERSHIP AND
OPERATING COSTS ON NONPOWERED EQUIPMENT)

DATE _____ PRICE BASE _____

3. Sprayer, 30'

10 YEAR LIFE

1,000 ACRES ANNUAL
USE

A. OWNERSHIP COSTS

NEW COST \$3,700

TRADE-IN VALUE 500 @ 10 % \$50

DEPRECIATION 3,200 @ 10 % (.163) 522

TAXES -

INSURANCE & HOUSING 28

OWNERSHIP COST PER YEAR \$600

OWNERSHIP COST PER ACRE \$0.60

B. OPERATING COSTS

REPAIRS \$ 150 PER YEAR

REPAIR COST PER ACRE \$0.15

OTHER OPERATING COST PER ACRE 0.01

OPERATING COST PER ACRE \$0.16

TOTAL OWNERSHIP AND OPERATING COST PER ACRE \$0.76