

Cash Flow Analysis Worksheets

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|| Introduction ||

This article describes the cash budget and analysis worksheets available for downloading at the Department of Agricultural and Resource Economics web site <http://ag.arizona.edu/arec/ext/budgets/counties.html> under the financial template section. The worksheets are part of the cashcost file in either the Excel or Quattro Pro format. These spreadsheet templates can be used to generate budget information customized to your operation on an operating or cash cost basis only (fixed costs are not included).

A cash flow analysis is an important step in taking control of any agricultural business. The allocation of income to cover expected costs throughout the year will help ensure that all credit obligations will be met. It is equally important not only to track current cash flows, but also to project at the start of the production year all expected income and expenditures. Once expected income and expenditures are recorded, comparisons can be made between projected and actual cash flows to help point out any discrepancies.

Two of the main worksheets found in the cashcost file are the cash budget worksheet and the analysis worksheet. Both of the worksheets and how to use them are described in the following paragraphs.

The cash budget worksheet allows the user to summarize all cash inflows (receipts) and outflows (expenditures) for up to four individual crops grown on the farm during the yearly business cycle. The year end summary receipts and expenditures are organized into categories and entered on the cash budget worksheet for each crop. The actual cash flow values can then be used to evaluate historical cash performance of the business, as well as serve as a guide for future cash flow needs throughout the current business year.

The analysis worksheet is linked to the cash budget worksheet and allows for percentage adjustments to be made for each crop and each income and expenditure category. A year-end comparison between the newly adjusted cash budget and the actual cash budget is presented at the end of the analysis worksheet.

|| Components of the Cash Budget & Analysis Worksheets ||

Both the cash budget worksheet and the analysis worksheet are broken up into several main areas denoted by type of receipts and expenditures. Under some of the main expenditure areas are sub categories further defining each of the expenditures. Each of the main areas are presented below with descriptions of what is contained within the areas and where appropriate, examples of data entries are presented. Data should only be entered in the areas shaded in green on the actual worksheets. All other areas are calculated fields and will automatically fill in when the information is provided in the green shaded areas.

Part 1: The Cash Budget Worksheet

Acreage and Revenues

1 – Total Acres

This area is for recording the total number of acres planted for each crop. For example, 400 acres of Alfalfa Hay, 80 acres of Spring Cantaloupe, 120 acres of Durum Wheat, and 100 acres of Upland Cotton.

2 – Yield (per acre)

Input the yield per acre for each crop listed (Figure 1, part 1).

3 – Price Received (per acre)

List the average prices received for each of the crops listed.

4 – Total Receipts (per acre)

Receipts for each of the crops are calculated based on the information provided in the yield and price areas above. Additional revenues such as government payments and custom work can also be accounted for in the section (Figure 1, part 2).

Figure 1

Enter Your Farm Name	Crop Enterprises				
Crops	Alfalfa Hay	Sp. Cantaloupe	Durum Wheat	Upland Cotton	Total Farm
Year	20-Jun-05	20-Jun-05	20-Jun-05	20-Jun-05	20-Jun-05
Acres	400	80	120	100	700
Yield (Per Acre)	Cost Per Acre				Per Acre
Lint (Lbs)				1217	
Cottonseed (tons)				1.06	
Tons					
Cartons/Sacks		381			
Lbs			5300		
Price					
Lbs			\$0.08	\$0.68	
Ton	\$96.70			\$133.60	
Carton/Sacks		\$12.90			
Receipts					
Crops	\$763.93	\$4,914.90	\$424.00		\$1,209.37
Government Rec.					\$0.00
Custom Work					\$0.00
Grazing/Other	\$18.00				\$10.29
Total Cash Operating Receipts	\$781.93	\$4,914.90	\$424.00	\$969.18	\$1,219.66

Yields per crop per acre (part 1) → 7.9

Total receipts per crop and whole farm (part 2)

Cash Expenses

Cash expenses are those costs that vary with output for the production period under consideration. There are three main categories each with supporting sub categories.

1 – Land Preparation & Growing

All costs incurred before harvest.

Labor: Includes labor for tractor, irrigation, hand, and other.

Chemicals & Custom Application: Includes all chemicals used throughout the growing process including fertilizer, insecticide, herbicide, etc.

Irrigation: Cost of the water only. Does not include labor or water assessment charge.

Farm Machinery & Vehicles: Includes all fuels used (diesel, gas, etc.), as well as repair and maintenance on equipment used in the land preparation and growing of the crop.

Other Purchased Inputs: Includes expenditures such as seeds, rentals, and technology fees

2 – Harvest & Post Harvest

All costs incurred during and after the harvesting of the crop.

Labor: Includes labor for tractor, hand, and other.

Chemicals & Custom Application: Includes chemicals such as defoliant.

Farm Machinery & Vehicles: Includes all fuels used (diesel, gas, etc.), as well as repair and maintenance on equipment used in the harvesting and shipping of the crop.

Other Purchased Inputs: Includes expenditures such as ginning, crop assessment, and custom harvesting.

3 – Other Costs

Includes costs such as overhead, insurance, operating interest, and leasing.

Cash Flow Analysis

This area calculates the total cash returns over total cash expenditures for each crop and the whole farm on a per acre basis (Figure 2).

Figure 2

Enter Your Farm Name	Crop Enterprises				
Crops	Alfalfa Hay	Sp. Cantaloupe	Durum Wheat	Upland Cotton	Total Farm
Year	20-Jun-05	20-Jun-05	20-Jun-05	20-Jun-05	20-Jun-05
Other Purchased Inputs					
Cotton Ginning				\$98.43	\$14.06
Crop Assessment				\$8.64	\$1.23
Custom Harvest		\$685.80	\$70.40	\$3.04	\$90.88
Other Materials	\$27.30	\$282.70		\$2.38	\$48.25
Additional Expenses					\$0.00
Total Other Purchases:	\$27.30	\$968.50	\$70.40	\$112.49	\$154.42
Total Harvest & Post Harvest:	\$165.68	\$968.50	\$74.50	\$242.28	\$252.74
Other					
Insurance					\$0.00
Telephone					\$0.00
Overhead	\$10.25	\$7.69	\$7.69	\$15.38	\$10.25
Interest	\$34.58	\$19.26	\$9.43	\$37.50	\$28.93
Lease					\$0.00
Miscellaneous					\$0.00
Total Other:	\$44.83	\$26	\$17.12	\$5	\$9.19
Total Cash Operating Expenses:	\$374.88	\$1,618.47	\$22.66	\$117.69	\$1,618.69
Cash flow Analysis					
Total Cash Receipts	\$781.93	\$4,914.90	\$124.00	\$969.18	\$1,219.66
Total Cash Expenses	\$374.88	\$1,618.47	\$22.66	\$892.35	\$1,618.69
Returns Over Cash Costs	\$407.05	\$3,296.43	\$161.34	\$76.83	\$647.97

Part 2: The Analysis Worksheet

The structure of the analysis worksheet is the same as that for the cash budget worksheet. All of the categories and their sub categories are carried over from the cash budget worksheet, so any changes made to the categories will be carried through. The analysis worksheet depicts all costs on a total acre per crop basis and on a whole farm. The two columns that make the analysis worksheet different are the percent of operating expenses column and the adjustment column.

Percent of Operating Expenses Column

This area calculates the percent of the total operating expenses for each category for each crop. This calculation will help define the areas where the majority of the cash expenses occur (Figure 3, part 1).

Adjustment Column

This column is used for making adjustments to individual categories for each crop listed. Adjustments can be made on a percentage increase or decrease (Figure 3, part 2). The adjustment column is the only area where entries are allowed to be made. All other information is either carried forward from the cash budget worksheet or is automatically calculated.

Figure 3

Farm Name: Enter Your Farm	Total		Adjusting	Adjusted	Total		Adjusting	Adjusted
Date: 08/11/00	Alfalfa Hay	% Op Exp.	+ or -, %	Total	Sp. Cantaloupe	% Op Exp.	+ or -, %	Total
Receipts								
Crops	\$305,502				\$393,192			
Government Rec.	\$0				\$0			
Custom Work	\$0				\$0			
Grazing/Other	\$7,200				\$0			
Total Cash Operating Receipts	\$312,772		NA	\$312,772	\$393,192		NA	\$393,192
Cash Expenses								
Land Preparation & Growing								
Labor			NA				NA	
Tractor/Self Propelled	\$128	0.1%			\$3,321	2.6%		
Irrigation	\$15,064	11.4%			\$3,396	2.6%		
Hand	\$0	0.0%			\$0	0.0%		
Other/Contract	\$0	0.0%			\$0	0.0%		
Additional Expenses	\$0	0.0%			\$0	0.0%		
Total Labor:	\$15,192	11.5%	NA	\$15,192	\$6,717	5.2%	NA	\$6,717
Chemicals & Custom Application			NA				NA	
Fertilizer	\$11,588	8.8%	15%	\$13,326	\$14,410	11.1%		
Insecticide	\$21,752	16.5%			\$3,358	2.6%		
Herbicide	\$5,692	4.3%	- 5%	\$5,407	\$0	0.0%		
Other Chemicals	\$0	0.0%			\$394	0.3%		
Additional Expenses	\$0	0.0%			\$0	0.0%		
Total Chemicals:	\$39,032	29.6%	NA	\$40,486	\$18,162	14.0%	NA	\$18,162
Irrigation (excluding labor)	\$9,816	7.4%			\$5,580	4.2%		

Total Farm & Adjusted Total Farm

At the end of the worksheet, the total expenditure per category is adjacent to the adjusted totals for comparisons (Figure 4).

Figure 4

Farm Name: Enter Your Farm Date: 08/11/00	Weighted Mean		Adjusted Total	
	Total Farm	% Op Exp.	Weighted Mean	% Op Exp.
Receipts				
Crops	\$242,116		\$242,116	
Government Rec.	\$0		\$0	
Custom Work	\$0		\$0	
Grazing/Other	\$4,114		\$4,114	
Total Cash Operating Receipts	\$246,231		\$246,231	
Cash Expenses				
Land Preparation & Growing				
Labor				
Tractor/Self Propelled	\$1,150	1.1%	\$1,150	1.1%
Irrigation	\$10,107	9.3%	\$10,107	9.3%
Hand	\$336	0.3%	\$336	0.3%
Other/Contract	\$0	0.0%	\$0	0.0%
Additional Expenses	\$0	0.0%	\$0	0.0%
Total Labor:	\$11,594	10.7%	\$11,594	10.7%
Chemicals & Custom Application				
Fertilizer	\$10,400	9.6%	\$11,393	10.5%
Insecticide	\$16,157	14.9%	\$16,157	14.9%
Herbicide	\$4,128	3.8%	\$3,965	3.7%
Other Chemicals	\$1,386	1.3%	\$1,386	1.3%
Additional Expenses	\$0	0.0%	\$0	0.0%
Total Chemicals:	\$32,070	29.6%	\$32,901	30.3%

|| Final Thoughts on Cash Flow vs Accrual Accounting ||

While cash flow analysis is an important tool in managing today's ranches, care should be used when interpreting cash flow analysis. Remember that a cash flow only looks at cash transactions when they are either paid or received, not when they are actually incurred (accrual accounting). Therefore, cash flow is only a measure of cash profits. To get at true profits, accrual accounting is needed to account for not only non-cash items but also changes in inventories, accounts receivable, and accounts payable. It is a well-known fact that a business can be going broke and still generate a positive cash flow for several years.