Cost of Production

While not a part of most business plans, calculating your Cost of Production is critical for any agribusiness and so is included here. Your Cost of Production (COP) reflects the dollar amount associated with producing a specific crop *for sale*. It is usually expressed in the selling unit quantity (e.g. $1.34 per pound if you sell by the pound).

Your COP includes both the direct costs associated with producing the product (seed, fertilizer, water, field labor, machinery time, etc.), as well as **an allocation of the indirect costs** (office, advertising, insurance expenses, etc.). It also includes the cost of capital expenses, which you aren't currently making payments on but need to consider in the cost of production.

Understanding your COP helps you:

- Determine optimum product pricing
- Determine breakeven sales volume
- Forecast the impact of changing costs and/or pricing
- **Determine individual product profitability for product mix selection**
- **Prioritize cost cutting efforts**

Practice: Determine the Direct Costs *per year* for each crop and total them in $A and $B respectively. Use the Indirect Cost subtotal from your Cash Flow for $C. Determine the annual "cost" for capital investments and total them for $D. The costs related to capital investments can simply be considered the purchase price divided by the number of useful years. So if a truck was purchased in cash for $7,000, and the useful life is seven years, you would put $1000 as the annual "cost."

Allocating Costs: With multiple crops, allocate a percentage of Indirect Costs to each crop. The allocation percentages in %E and %F will total 100% and usually represent relative acreage-weeks for the crops. For example, if Crop takes up one acre and is in the ground for 30 weeks, and Crop 2 takes up one acre and is in the ground 10 weeks, then Crop 1 would be allocated 75% of the indirect costs and Crop 2 would be allocated 25%.

Add the Direct Cost and the allocated other costs and divide that by the number of units you expect to sell (not just grow) for a crop, and that is your COP for one unit for that crop.

To determine your Breakeven Volume: $G / contribution margin,

Where Contribution Margin = sales price – direct cost per unit ($A/K)

Direct Costs per Year		Crop 1	Crop 2
	Labor (plant, spray, irrigate, harvest, pack, etc.)		
	Materials (fertilizer, water, seeds, pesticide)		

		Total	$A	$B
Indirect Costs per Year				
	Machinery and equipment			
	Utilities			
	Insurance			
	Rent			
	Adminstrative labor			
	Other Business Expenses			
	Total	$C		
Capital Investment "Costs" per Year				
	Land			
	Vehicle			
	Total	$D		
	Total Non-Direct ($C+$D)	$N		
Allocation (totals 100%)				
	By share of acreage		%E	%F
Total Allocation of Indirect and Capital Investments ($N x %E or %F)			$G	$H
Total Crop Cost per Year (Direct Cost + Total Allocation) (e.g., $A+$G)			$I	$J
Crop Yield per Year (in selling units, e.g., pounds, bunches, cases)			K	L
Cost of Production (Total Crop Cost / Crop Yield) ($I/K or $J/L)				